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THE

LONDON MEDICAL REVIEW

AND

MAGAZINE;

BY A

SOCIETY OF PHYSICIANS AND SURGEONS.

VOLUME THE FIRST:

INCLUDING SIX MONTHLY NUMBERS,

FROM MARCH TO AUGUST, 1799.

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PREFACE.

SEVERAL months having elapsed since the prospectus and first number of the LONDON MEDICAL REVIEW AND MAGAZINE were circulated, the medical world has had an opportunity of appreciating both its design and its execution. The very candid and flattering reception with which the early specimens of this work have been honoured, encourages the Society to believe that their efforts have been generally approved. They now, on the completion of a volume, beg leave to repeat their assurances, of sparing no exertion nor expense to render their performance deserving of the public patronage.

In their analysis of new books, the Society have endeavoured to pay the greatest attention to those which contained matter of improvement in the theory or practice of medicine; and of some publications, indeed, they have given a very copious account. This sort of preference has necessarily diminished the number of articles in the review, but, it is presumed, has rather increased than lessened its real value. In the mode of conducting this part of their undertaking, they have endeavoured to furnish those gentlemen who are engaged in too ex-

tensive practice to admit of much reading, with an epitome of modern doctrines and discoveries; and, on the other hand, to afford those who have more leisure, an index, or clue, by which they may be assisted in recalling to their minds what they have perused at large in the original works.

Although the Society cannot but acknowledge the favours they have already received from various intelligent correspondents, who have contributed to the usefulness of this volume by transmitting original cases and remarks, they hope to be supplied with a still greater abundance of such communications in future. But experience has evinced the necessity of adding, that they are determined to resist the progress of empiricism, under every form and pretence: they must also take the liberty of suggesting, that no consideration will prevail on them to insert an author's review of his own publication.

LONDON,
August 31, 1799. W. N.

CON-

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COR-

CORRIGENDA.

Page 256, line 20; for *twenty-nine*, read *nineteen*.
—— 397, — 4; for *he*, read *they*.
—— 404, — 15; for *so that I could*, read *but I did*.
—— 590, — 11; for *eight*, read *three*.
—— 598, — 34; for *month*, read *case*.

DIRECTIONS TO THE BINDER.

The Plate of the Tooth-Instrument to be placed opposite page 174, and that of the artificial Leg and Arm facing page 495.

PROSPECTUS.

"Variis cujusque ætatis doctorum laboribus coacervata sapientia est, "hominumque multorum mens in unum quasi collecta."

Baglivi Praxeos Medicæ, lib. i. cap. i. § viii.

THE advantage resulting from periodical publications in every department of learning, has been universally felt and acknowledged: but, if there be any one branch of science to which these vehicles of information are peculiarly adapted, it is undoubtedly to Medicine. The number and variety of those observations and discoveries which tend to explain the different operations of the animal economy, and to throw light on the history or cure of diseases, more especially call for a general repository in which they may be early recorded; from whence practitioners may have an opportunity of obtaining, at stated periods, a view of the progress of medical knowledge, and of the undertakings which are carried on for its improvement.

This desideratum seems particularly requisite at the present time, when the minds of ingenious men, in all parts of the globe, are turned to scientific inquiries, and successive discoveries are continually rewarding their laudable exertions. It has, therefore, been matter of just surprise that we have hitherto possessed no MONTHLY JOURNAL in which the state of medical science has been regularly detailed, with an account of the progressive stages of physic and surgery, and the assistance they derive from the advances made in natural history and philosophy.

It will not be assuming too much to affirm, that a journal of the above description may be conducted in LONDON with peculiar advantages. *Here* medicine has unquestionably attained as high a degree of perfection as it has ever yet reached;

and not only the most important discoveries, but the best application of thoſe discoveries to practice, have been made. For, not to insist on the acknowledged pre-eminence this metropolis possesses over every other, in respect to foreign correspondence and internal communication, the number of hospitals and other similar establishments, with which it abounds, afford the practitioners who superintend them daily opportunities of making useful observations themselves, and of verifying or refuting the suggestions of others.

Several physicians and surgeons who had experienced the necessity of such a work, and who were convinced that much benefit would accrue from it to the profession, as well as to the public at large, having communicated their sentiments to each other, agreed to associate together for the purpose of collecting, arranging, and printing such materials as could be procured. On submitting to their brethren an outline of the plan which appeared the most eligible, encouraging promises were immediately received from various respectable quarters; and as some members of the Society are themselves entrusted with the superintendence of hospitals, &c. and several of them have extensive literary connexions abroad, they enter upon their undertaking with the fullest confidence that they ſhall not disappoint the expectations of their readers.

The plan which has been adopted, will comprehend two primary objects: *Firſt*, To exhibit a faithful monthly account of the most interesting new publications, both foreign and domestic, in physic, surgery, and medical philosophy: *Secondly*, To collect all the important unedited facts, relating to any branch of the profession, which can be obtained from contemporary practitioners, in different parts of the world.

In conducting the former part of their work, they design chiefly to follow the analytical method, that each author may be allowed to speak for himself: but as they do not engage to give a complete review of every performance that may issue from the press (which would be an endless and unprofitable

task), their attention will be principally directed to books that are either more expensive than common, more difficult to be procured, or deserving especial notice on account of the novelty or importance of their contents. Of the rest it will be sufficient to give a general character, with impartiality and conciseness. But, in order to render this department of their journal as perfect as possible, they will thankfully avail themselves of the assistance of learned and scientific persons, who may possess FOREIGN PUBLICATIONS, of which the state of the political world, or other circumstances, render the conveyance uncertain: articles of this nature, addressed to the Secretary of the Society, may be transmitted either in the Latin, French, Italian, Spanish, or German language.

Original cases and memoirs have formed the most valuable part of those periodical works, which have hitherto acquired the greatest reputation; and the decided utility of these communications is too obvious to need any comment. The more universally medical men concur in giving to each other a free and faithful account of their own experience, the more will useful inquiries be suggested, and the art of observation improved. It is therefore hoped, that the profession at large will further the views of the Society, in promoting this desirable object: and they beg to assure their correspondents, that the most punctual attention ſhall be paid to the early insertion of all authentic intelligence connected with practice.

In addition to the articles above enumerated, others will be included; which, if not of equal moment, are nevertheless too interesting to be omitted in a work of this kind. Among these may be mentioned, occasional histories of endemial or epidemic diseases, and their treatment;—an accurate report of chemical and pharmaceutical experiments;—the trials and effects of new remedies;—useful discoveries relating to medicine, in the animal, vegetable, or mineral kingdom;—inventions and improvements of chirurgical operations, or the instruments by which they are performed;—inquiries or suggestions, tending to elucidate any branch of medical philo-

sophy

sophy or practice;—notices of works preparing for the press;—proposals for lectures, prize questions, or the establishment of public institutions;—vacancies and elections in the professional departments of universities, hospitals, dispensaries, &c.;—promotions of physicians and surgeons in the army or navy;—hints on medical economy and jurisprudence;—biographical memoirs of deceased men of eminence in the profession;—a register of the changes in the weather, the barometer, and thermometer;—with a table of the current price of drugs;—and other miscellaneous news. Occasional extracts, on any of these subjects, will likewise be made from rare or voluminous publications, especially from the transactions of foreign literary societies.

It must be evident that a design of this nature and extent can only be conducted with propriety and effect by *medical* men; who are neither dependent on the hire, nor subject to the controul, of persons not in the profession.

——Quod Medicorum est,
Promittunt Medici.

This consideration, it is presumed, will induce the medical world to countenance the present undertaking, and enrich it with whatever may contribute to its general acceptance or utility. In the mean time, the Society pledge themselves to spare no exertion or expense, to render it worthy of universal patronage and support.

One number of the London Medical Review and Magazine will be published on the last day of every month; and, half-yearly, at the conclusion of each volume, a copious index will be given of the principal subjects which occur in the six preceding numbers. Z. S.

London, *March* 31, 1799.

*** New books, advertisements, orders, and literary communications, are requested to be sent, *as early in the month as possible*, according to the address given upon the cover of each Number.

THE

LONDON MEDICAL REVIEW

AND

MAGAZINE.

VOL. I. N° I. FOR MARCH MDCCXCIX.

ACCOUNT OF NEW PUBLICATIONS.

ARTICLE I. *Medical Records and Researches, selected from the Papers of a private Medical Association.* Cox and ROBINSON, London. 1798. Octavo, 208 pages, with plates. Price 7*s.* 6*d.*

WE begin our work by giving an analysis of a very interesting collection of cases, by a society which, we hope, will continue to render itself beneficial to the public.

1. *A Case of strangulated Hernia, in which a Part of the abdominal Viscera was protruded into the left Cavity of the Chest.* By Mr. Astley Cooper, Lecturer in Surgery, and Assistant Lecturer in Anatomy, at St. Thomas's Hospital.

Sarah Sloman, aged twenty-eight, had from her childhood been afflicted with oppression in breathing, which increased as she advanced in years, attended with frequent cough and pain in her side. These symptoms were unaccompanied with any other marks of disease. Her employments were of the most laborious kind, which she continued with patience, although often ready to sink under their conse-

quences. After any great exertion, she was frequently attacked with pain in the upper part of the abdomen, with vomiting, and a sensation, as she expressed it, "of something dragging to the right side," which sensation she always referred to the region of the stomach. The cessation of these symptoms used to be sudden as their accession. Some days previous to her death, she was seized with the usual symptoms of strangulated hernia, viz. frequent vomitings, costiveness, and pain; the pain was confined to the upper part of the abdomen. As there was no local swelling to indicate the existence of hernia, the disease was supposed to be in the thorax. She was unable to lie on her right side, had a constant pain in the left, a cough and difficulty of breathing, attended with some dragging sensation, of which she had formerly complained.

"The signs of inflamed intestines, with the addition of a troublesome hiccough, continued without abatement for three days, when she expressed herself better in these respects; but the morbid symptoms in the thorax remained as violent as at first, and on the fourth day from their commencement she expired.

"Dissection.—When the abdomen was opened, there appeared a very unusual disposition of the viscera.

"The stomach and the left lobe of the liver were thrust from their natural situation, towards the right side.

"When the large intestines were examined, the great arch of the colon, instead of being stretched from one kidney to the other, was discovered to have been pushed into the left cavity of the chest, through an aperture in the diaphragm.

"A small part only of the omentum could be discovered in the cavity of the abdomen, a considerable portion of it having been protruded into the chest, through the same opening by which the arch of the colon had passed.

"The displacement of the stomach and left lobe of the liver had arisen from this altered position of the colon and omen-

tum, which, in their preternatural course towards the diaphragm, occupied the situation of each of those parts.

" When the chest was examined, the left lung did not appear of more than one third its natural size, placed at the upper part of the left cavity of the thorax, and united to the pleura costalis by recent adhesions.

" The protruded omentum and colon were found at the lower part of the left cavity of the chest, between the lung and the diaphragm, floating in a pint of blood-coloured serum. The colon in colour was darker than usual, in texture softer, distended with fæculent matter, mixed with a brown-coloured mucus. The portion of this intestine contained within the chest measured eleven inches.

" The opening through which these viscera had protruded was placed in the muscular part of the diaphragm, three inches from the œsophagus; it was of a circular figure, and two inches in diameter; its edge was smooth, but thicker than the other parts of the muscle.

" The peritonæum terminated abruptly at the edge of this aperture; so that the protruding parts were not contained in a sac, as in cases of common hernia, but floated loosely, and without covering, in the cavity of the chest; of which they occupied so large a space, as to occasion considerable pressure on the left lung, and to produce the diminution I have before remarked. The right side of the chest and the right lung were free from disease, and the heart was in a sound state."

Mr. Cooper is of opinion that " this disease may be known in the living subject by the combination of symptoms of strangulated hernia, with those of an inflammation in the chest; viz. vomiting, costiveness, hiccough, pain and tension of the abdomen, together with cough, oppressed breathing, and an inability to lie on one side, occurring in a person only a few hours before in perfect health.

" From a review of the nature and situation of this

disease, it would appear that in any future case the erect posture will be found the most favourable to the return of the protruded parts into the cavity of the abdomen, and the warm bath, with the other remedies commonly used, will of course be equally proper in this as in other cases of strangulated hernia. The frequent recoveries which this woman experienced from violent and dangerous symptoms, show clearly the propriety of such attempts, and render it highly probable that their issue will be successful.

" When the hernia is reduced, it need scarcely be remarked, that the patient should guard against a relapse, by avoiding all extraordinary exertion."

A similar case is related by Mr. Bowles, Surgeon, at Bristol, of a man, in whom a protrusion was discovered of a part of the abdominal viscera into the cavity of the chest. It differs from the foregoing case, in the disease being placed on the right instead of the left side; in the contents being free from strangulation; and in having been enclosed in a sac, instead of floating loosely in the cavity of the thorax.

2. *A Case of Tic Douloureux, or painful Affection of the Face, successfully treated by a Division of the affected Nerve.* By John Haighton, M. D. Physician to the Eastern Dispensary, and Lecturer on Physiology and Midwifery, Guy's Hospital.

The complaint here described is of a nature that cannot fail to excite our sympathy; whether we consider its duration, the intensity of its pain, or the inefficacy of the attempts usually made for its relief.

" Mrs. H——, of Stockwell, Surry, aged seventy-four, a mother of children, of a spare habit, placid disposition, and for her age much disposed to activity, was about thirteen years ago, for the first time, seized with pain of the face. This pain at its commencement was very moderate, but in its progress became violent; at length it acquired a degree of

acute-

acuteness, which neither words can describe, nor the imagination easily conceive.

"The seat of this extreme pain was somewhat limited; being confined to the ala nasi and a small portion of the upper lip, on the right side. The pain was not of the continued obtuse kind, like that of chronic rheumatism; but, on the contrary, rather transient, exceedingly acute and lancinating during its attack. The periods of its recurrence were indefinite, and in the intervals of which she was generally in a state of perfect ease. There was a striking uniformity both in the origin and direction of the pain: it always began in the ala nasi and upper lip, and darted upwards towards the orbit; but when the attack was more than commonly violent, then indeed it extended to other parts, and a sensation of a similar kind, though much less in degree, was frequently perceived along the cheek towards the ear; the same sensation was also observed on the fleshy and bony palate, on the gums and teeth of the upper jaw, and sometimes on the fauces. She seemed particularly disposed to this pain in severe or windy weather; yet she was not altogether free from it even in the mildest season. It was most frequently excited by the more obvious occasional causes, such as speaking, coughing, taking food, blowing the nose, &c. though sometimes it would return from causes less apparent. The duration of each pain seldom exceeded half a minute; but more frequently it was somewhat less.

"Sometimes she had not more than five or six of these pains in the space of a day; at others nearly twice that number in an hour. They varied sensibly in their degree of violence; sometimes so moderate as only to suspend the movement of the upper lip, but more commonly so pungent as to extort screams expressive of intense agony. Besides the suspension of the motion of the lip, a very opposite effect frequently took place, viz. a tremulous movement, during which it was sometimes drawn a little upward.

upward. Notwithstanding there were such intense pains, neither swelling nor discoloration could be perceived, except such as were occasioned from time to time by external applications. These were the general symptoms."

An attention was recommended to the urgency of the symptoms by the application of the *lin. ammoniæ* and the exhibition of tincture of opium, both internally and externally; likewise electricity, in such forms as the patient could best bear. She being in the north of England, Dr. Haighton heard no more of her for two years, when she came to reside in the vicinity of London.

"It was only at this period," says Dr. H. "that I began to form what I conceive to be a just idea of the disease. The following circumstance gave rise to it:

"While my patient was endeavouring to describe her feelings, which she attempted in a very inarticulate manner, she stopped suddenly, and, upon looking at the part affected, I perceived a tremulous motion of the upper lip, by which it was drawn upwards precisely at that part where the *musculus levator labii superioris proprius* is inserted; and from recollecting a well-known fact, that a nerve, under irritation from stimulating causes, produces motion in the muscular parts to which it is distributed, it immediately occurred to me that the suborbitar branches of the fifth pair of nerves, which are known to supply these parts, must be the seat of the present disease.

"In order, therefore, to reduce (as far as possible) to certainty, what hitherto was only matter of surmise, I waited for the next exacerbation, which took place in a few minutes, and by making, at this time, rather a forcible pressure upon the integuments covering the suborbitar foramen, the pain instantly abated. I repeated this several times, and uniformly with the same effect.

"As my conjecture relative to the seat of this disease seemed to gain considerable support from this experiment, I thought

thought it essential to take a more minute survey of the symptoms, particularly as being seated in those parts which seemed affected in a secondary or sympathetic way.

" Now it appears from the history of this case, that the extreme pain was seated in the *ala nasi* and upper lip, on the right side; but when it darted with more than common violence, it affected other parts, as the ear, by extending itself along the course of the cheek, by means of communicating branches belonging to the *portio dura* of the seventh pair, which pair begin to spread on the side of the face as soon as it emerges from behind the condyles of the lower jaw. It attacked also the palate, gums, and teeth of the upper jaw, but no part of the lower; sometimes the fauces; but the part which seemed affected next in degree to the original seat, was immediately behind the *dentes incisivi.*

" From comparing this assemblage of symptoms with the distribution of the second or superior maxillary portion of the fifth pair of nerves, I was struck with the coincidence, and at the same time was persuaded, as has been already hinted, that the original disease was in those branches of the nerve transmitted by the suborbitar foramen, and distributed to the ala nasi and upper lip; and that the darting pains extending to the teeth, inside of the gums and palate, arose from communicating filaments between the suborbitar and palatine branches. As a temporary advantage had been frequently gained by pressure of the suborbitar nerves against the bone, the entire division of them seemed eligible; and it was proposed to my patient as an ultimate expedient."

Having gained permission to operate, Dr. Haighton began to consider the circumstances of this nerve more attentively; and as the intention was to effect a complete division of its filaments, by an incision of a moderate length, the means conducive to that end became important subjects of regard.

Dr. Haighton then proceeds to point out the distribu-

tions

tions of the nerves transmitted by the suborbitar foramen, and the exact situation of the foramen.

"The preliminary circumstances being settled, the operation becomes exceedingly simple, and consists in an incision of three quarters of an inch in length, carried obliquely* downward, the centre of which must correspond with the foramen, only a quarter of an inch below it. The incision must be made down to the bone, otherwise we cannot be certain of dividing the nerves, as they are situated very deep. And as there are some irregularities on the surface of the maxillary bone at this part from muscular attachment, as well as a furrow, which is sometimes continued from the foramen downwards, a small pointed knife will be preferable to any other, as it will enable the operator to divide with more certainty such nervous filaments as may be seated in these depressions.

"The facial vein frequently passes over the foramen, and conceals it; from which it is liable to be divided in the operation. If this really happens, or if any of the suborbitar branches of the internal maxillary artery should bleed with freedom, a compress may be made with advantage, as they are seated near the bone.

"The wound being dressed superficially, will probably heal by the first intention.

"In the manner just described I performed the operation, and the event has amply justified its propriety. It immediately put an end to the pain; and in a few days the incision healed. My patient, who has now lived nine years since the operation, contemplates that event, I scarcely need say, with the highest satisfaction.

"It is worthy of remark, that the sensation and action

* "Lest the reason for giving a slight degree of obliquity to the incision should not immediately strike the reader, it may be proper to remind him of the oblique course which most of these nerves take in their passage from the foramen to the ala nasi."

of

of that side of the lip, though evidently diminished, were not altogether lost, as might have been predicted. The inconvenience was only temporary; we may therefore suppose a reunion of the nerves had taken place, but with this fortunate effect, that no disposition to the return of the disease through the new-formed part has yet appeared."

3. *An Account of a ligamentous Union of the Tibia, after the Removal of a carious Portion of that Bone.* By Mr. Richard Smith, Surgeon of the Bristol Infirmary. Communicated by Mr. Astley Cooper.

The diseased portion of bone was entirely removed by the saw, and the limb placed in a fracture-box. At the expiration of a month, the wound, which had uniformly worn a healthy appearance, was nearly filled up by granulations, and the skinning process advanced rapidly. Permission was then given the patient to walk about, which he was able to perform tolerably well. In a fortnight, he sickened with the small-pox, and died. Upon examining the parts, the edges of the bone left by the saw were found to be absorbed and rounded at both extremities, and the greatest part of the space originally occupied by the diseased bone was filled by a tough, though thin, ligamentous band.

4. *A Case of a penetrating Wound by a Bayonet passing through the Heart, in which the Patient survived the Accident upwards of nine Hours.* Communicated by William Babington, M. D. Assistant Physician to Guy's Hospital, by the Permission of John Lind, M. D. Senior Physician to his Majesty's Royal Hospital at Haslar.

This case occurred in the year 1778, when Dr. Babington was employed at the Royal Hospital as an assistant surgeon; and the particulars were drawn up by Dr. Lind on the examination of the body after death.

Henry Thomas, a marine of the Foudroyant, slipped from the gangway and fell upon the point of his bayonet, which entered his side between the lowest rib and the spine of the

ilium, pierced the colon nearly where it terminates in the rectum, came out in the upper part of its arch, entered the lower part of the stomach, passed through the thin extremity of the left lobe of the liver, and entered the right ventricle of the heart, having penetrated the centre of the diaphragm: from the heart, again passing the pericardium, it pierced through the upper and middle lobes of the lungs, forced a passage between the cartilages of the second and third ribs, and sheathed its point beneath the pectoral muscle. The bayonet was drawn out by the man without assistance; he rose, lifted his musket, and said he was not much hurt. Notwithstanding the extent of the injury, very few of the symptoms occurred which usually attend wounds of parts so essential to life.

5. *An Account of a Rupture of the Aorta near the Heart.* By Mr. Lynn, Jun. Surgeon, at Woodbridge. Communicated by Mr. Astley Cooper.

The subject of this relation was a pregnant woman, aged twenty-nine years, of a plethoric habit, but of a relaxed fibre. About a fortnight before her labour commenced, she had pain of her side and oppressive sensations about the heart, which were relieved by blood-letting, opium, and æther. During her labour she suddenly started up in her bed, immediately after a pain, and complained of a most severe, though momentary, uneasiness in her heart, and said she was dying. A universal coldness spread over the body, and no pulse could be felt at the wrist. A large quantity of brandy was forced into the stomach, and she soon began to revive. Suspecting the heart was ruptured, and the process of labour having ceased, it was judged prudent to deliver with the forceps. She lived seven days with the aid of cordials and opium. Upon examining the body after death, the aorta was found ruptured about an inch from the heart, just above the margin of its valves, and opposite to the appendix of the right auricle. The opening was sufficiently large to admit

a com-

a common goose-quill. The internal surface of the ruptured vessel was ulcerated, in a circular direction from the opening. The heart was enlarged; the valves somewhat thickened, as was also the pericardium; and there was an accumulation of water in the chest and pericardium.

6. *On the Use of the Tinctura Ferri Muriati, in those Suppressions of Urine which arise from a spasmodic Affection of the Urethra.*

" Mr. Cline, who first discovered the efficacy of this medicine in relieving spasms of the urethra, has granted his permission to publish the following extract from his lectures:

" ' A grazier, about thirty-five years of age, had a stricture ' in the urethra during several years, for which bougies were ' occasionally used. He was attacked with a retention of urine, ' which continued nearly forty-eight hours, without his ob- ' taining any relief, although trial was made of all the usual ' remedies. This attack was soon followed by another of the ' same kind, and the warm bath, opiate clysters, &c. were ' as ineffectual as before, the urine being never evacuated ' until his strength appeared almost exhausted by the com- ' plaint. At other times, with the aid of bougies, he ' voided his urine in a favourable stream, and one of mo- ' derate size could be passed without difficulty: but during ' the spasmodic state of the stricture, neither a drop of ' urine passed, nor could the smallest bougie be introduced. ' The return of spasm of the urethra became afterwards ' more frequent, and each time the retention of urine lasted ' so long as to endanger the life of the patient. From the ' frequency of this complaint, and its supposed danger, he ' removed to London, and, in a few days after his arrival, ' was seized with a retention of urine as before. As the ' common methods of treatment had no effect in this case, ' it was at once determined to try an unusual remedy, and a ' tobacco clyster was directed. This produced languor, a

'cold sweat, faintness, and insensibility; from which he 'recovered in about an hour, and soon after voided his urine 'without difficulty. However, in a few days he had a re-'turn of the retention, and the clyster was again proposed; 'but being extremely averse to its use, on account of the 'very distressing symptoms which it had before produced, it 'was proposed to give him ten drops of the tinctura ferri 'muriati every ten minutes, until it produced some sensible 'effect. When he had taken six doses of it, *i. e.* in an 'hour, he had an irritation to void his urine, and it imme-'diately flowed freely; although in every preceding attack 'the complaint had continued about forty-eight hours, 'except when the tobacco clyster was given. He had 'several relapses of the complaint, and was each time re-'lieved by taking the above medicine in similar doses, and 'became so confident that he possessed a specific for his 'disorder, that he no longer felt any apprehension about its 'consequences.'

" 'This medicine has since been given in several similar 'cases with equal success; but in all, the complaints were 'purely spasmodic. Retentions of urine from other causes 'cannot be affected by it'."

7. *Three Instances of Obstruction of the Thoracic Duct, with some Experiments, showing the Effects of tying that Vessel.* By Mr. Astley Cooper.

" The thoracic duct is a vessel of so much importance in the animal economy, from its being the medium by which the nutritious part of the food is conveyed into the blood, and the channel through which the greater number of the absorbents empty themselves into the veins, that it might be reasonably expected an obliteration of its canal would produce the most fatal consequences.

" It will be found, however, by these facts, that nature, with a kind regard to our preservation, has provided security against this evil; so that a considerable degree of disease

may

may exist in the principal trunk of the absorbents, without any permanent interruption to the progress of absorption.

"In two cases, the obstruction was prevented from producing fatal consequences by the anastomosing vessels on the left side of the spine having performed the office of the thoracic duct.

"Such collateral absorbents may be found in many subjects, in which the thoracic duct is undiseased.

"These vessels, therefore, possess the same power with the arteries and veins, of adapting themselves to different circumstances. As the canal of an artery may be obliterated, yet the circulation continues by means of collateral branches; and many veins may be destroyed, yet the blood returns by others to the heart; so the absorbents may be obstructed to a considerable extent, yet absorption will not be interrupted.

"The absorbents also possess a power of dilatation and contraction, according to the quantity of fluid they are required to convey; a circumstance which the enlargement of the absorbents on the left side of the spine, in these diseases, sufficiently establishes."

The experiments instituted by Mr. Astley Cooper, of tying the thoracic duct of dogs, all tend to refute the idea of any other terminations of the absorbent vessels; for when the thoracic duct was tied, the absorbents, instead of having emptied themselves into veins, were many of them ruptured, and those which remained whole continued fully distended with their fluid.

8. *Two Cases of Rabies Canina, in which Opium was given, without Success, in unusually large Quantities.* The one by William Babington, M. D. Assistant Physician to Guy's Hospital; the other by William Wavell, M. D. Communicated by Dr. Babington.

These cases contain an additional proof of the inefficacy of opium in the treatment of this melancholy disorder, together

gether with many other interesting circumstances attending the progress of the disease. In the first instance, the man took three drachms and five grains of opium in the course of eleven hours, with ten grains of calomel; fourteen ounces of blood were drawn from the arm, he was put into a warm bath, and two ounces of the strong mercurial ointment were diligently rubbed upon his legs and thighs: in the other, the quantity of opium given in twenty-five hours amounted to fifty-four grains. An enema, containing ten grains, was also given, but without the least alleviation of the symptoms.

9. *A Case of the Cæsarean Operation performed, and the Life of the Woman preserved.* By James Barlow, Surgeon, late of Chorley, Lancashire, but now of Blackburn in the same County. Communicated by Dr. Haighton.

The subject of this case was a woman, forty years of age, of a robust constitution, and who had borne several children. The circumstances which rendered the operation necessary were, her having, previous to this last impregnation, fractured the os innominatum, and so deformed the pelvis, as barely to suffer the finger to pass between the os pubis and last lumbar vertebra. The patient being taken out of bed, and placed upon a table, lying on her back, with her head raised by pillows, Mr. Barlow began the operation "by making a longitudinal incision, five inches and a half in length, as high as the navel, parallel to the linea alba, and about two inches to the left of that line. The integuments and the left rectus muscle being cut through, a small opening was made through the peritoneum at the upper part, and, by means of a probe-pointed bistory, this membrane was dilated to the same extent as the external parts. The uterus was now exposed to view, and an incision, of the same length, was continued through it. The child presented with its breech, and was extracted through the artificial opening, but unfortunately was dead; yet, it did not show any material sign

of

of putrefaction. The placenta and membranes were then extracted with the greatest ease. The uterus was very thin, scarcely exceeding that of the peritoneum, and equally so through the whole extent of the incision. No attempt was made to examine the pelvis from the abdominal wound. The hands of an assistant were applied on each side of the abdomen to prevent the admission of external air, and to press out any blood that might be effused among the intestines; after which, the sides of the wound were brought together, and secured by seven sutures, over which slips of adhesive plaster were applied, and the dressing completed by a few turns of a flannel roller round the body.

"The peritoneum was not included in the sutures, and no part of the viscera protruded during the operation; neither were there any blood-vessels divided, which required to be secured by ligature. It was a fortunate circumstance that no hæmorrhage followed the extraction of the placenta, as was to be apprehended, from an atonic condition of the uterus, the effect of long distention. The womb contracted properly, the lochia were about the usual quantity, and continued as in other cases. The poor woman scarcely complained during the operation, so great was her fortitude. Soon after, she was put into bed, slept without taking any medicine for that purpose, and passed a good night. The next day she complained of a fulness about the region of the stomach, with an inclination to vomit; and, on laying my hand on the abdomen, a degree of tension was distinguishable. Her tongue had a whitish appearance, and her pulse about 120. A laxative clyster was administered with the desired effect, and the tension of the abdomen with pain, yielded to the stimulating effects of a blistering plaster. In short, all the symptoms which had before indicated irritation, now suffered a very obvious remission. Four days having elapsed since the operation, it was thought eligible to remove every other suture;

suture; on the sixth, the remaining ones were taken away, and the wound appeared healed."

10. *A singular Case of Lithotomy.* By R. B. Cheston, M. D. Communicated by William Babington, M. D.

Thomas Hope, about twenty years of age, was admitted into the Gloucester infirmary with a stone in perinæo, which, for nearly eighteen months, had occasioned a constant and involuntary dribbling of his urine.

"Upon its being determined," says the author, "to attempt the extraction of the stone or stones, I ordered him into the warm bath three or four times, and particularly about two hours before the intended operation. As I could not pass the sound into the bladder, it was my intention to cut upon the stone in perinæo, and afterwards to introduce the gorget into the bladder by means of a female staff; an operation I had once practised before with success.

"When I had cut down on the stone in the urethra, with the intention of continuing my incision through the neck of the bladder, I found the body of the bladder so closely contracted upon the stone it contained, and of which that in the urethra proved a portion, that I could not introduce the staff, nor even the head of a small probe, between them; and though I made several gentle as well as powerful efforts to carry my point, I was obliged at last to give it up, as absolutely impracticable."

It was agreed by all present that the wound should be kept open, which was effected by prepared sponge. Five weeks after, an attempt was made to extract it by introducing into the wound, between the stone and the bladder, the female staff, and upon it the largest sized cutting gorget; but upon attempting to use the forceps, the same difficulty occurred. The stone was then broken, and extracted piecemeal. The pieces, when collected, weighed two ounces. A considerable hardness, which remained around the incision, disappeared

by the use of some mercurial ointment, and the wound then cicatrized. Some years after, this patient returned with symptoms of another stone. Upon examination by the rectum, a stone of a considerable size was felt in his bladder, which could be traced along the course of the urethra, within the scrotum more than an inch. The operation being determined on, the external incision was made as free as possible, uncertain whether the stone in the urethra was separate from, or a continuation of, that in the bladder. Upon laying hold of the stone with the forceps, it gave way at the neck of the bladder, and was extracted with tolerable ease. But the bladder was, as before, so contracted, as to render it necessary to extract it by pieces.

11. *Observations on the Cure of Hydrocele by Injection.* By J. R. Farre, Surgeon. Communicated by Mr. Astley Cooper.

The event of two of the cases here related remains undecided; three others succeeded; and four failed, under the first injection; but of these, two, on being again injected, were cured.

"It yet remains to be determined which is the most effectual operation for a disease which has been so long known. Surgeons to large hospitals have had it in their power to solve this difficulty by comparative trials; yet at hospitals various operations are still performed, and each has its advocate. That some of them occasionally answer the purpose has been long since proved; but to each mode it has been objected, either that it is uncertain in its effects, or dangerous from its violence. When we compare the operation by injection with the many others recommended for the radical cure of hydrocele, we are struck with its most pleasing characteristic mildness."

12. *An Inquiry concerning the true and spurious Cæsarean Operation, in which their Distinctions are insisted on, principally*

cipally with a View to form a more accurate Estimate of Success; to which are annexed some Observations on the Cause of the great Danger. By John Haighton, M. D. &c.

The author here points out, very distinctly, the necessity of distinguishing whether the fœtus be contained in the uterus, or only in one of the appendages to that organ.

The first can alone be properly called the Cæsarean operation, and its consequences are dangerous in the extreme; the last, which has been even by the profession confounded too frequently with it, is comparatively an operation of little hazard.

Most of the cases here deduced from the works of the ancients on this head, appear to have been of the spurious kind. At the end of the investigation are some decisive experiments, which seem to prove, that atmospherical air penetrating into cavities is perfectly harmless: the causes of the great danger in the Cæsarean operation, therefore, are alledged to be the large incision made into the uterus, and the sudden discharge of blood in considerable quantity.

13. *A Case of imperforated Hymen attended with uncommon Circumstances.* By John Sherwen, M. D. Enfield, and Member of the Corporation of Surgeons. Communicated by Dr. Haighton.

"Elizabeth Estwick, aged thirty-eight, who had been fourteen years married, was in extreme pain, having for three or four days had no evacuation of urine but by means of the catheter. Her abdomen was so much enlarged as to have the appearance of her being six or seven months advanced in pregnancy. She had very strong bearing down pains, with tumour in perinæo, and apparently a solid substance in the vagina, affording so lively a representation of the head of a child during the exertions of labour, that it might for a moment have deceived the most skilful practitioner in midwifery. But the impossibility of this was

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immediately apparent; for the entrance into the vagina was absolutely shut up by a very rigid and completely imperforated hymen.

"The true state of the case being ascertained, a lancet was plunged into the tumour in the vagina, which was withdrawn without the discharge of any fluid, except a little florid arterial blood, which the hymen itself, being very thick, fleshy, and vascular, afforded; but by enlarging the aperture so as to admit the fore-finger, and by continuing the incision upward, as high as the safety of the urethra would admit, and downward as low as the perinæum, the thickened menses escaped slowly, the colour and consistence of which were that of the thickest treacle.

"This case affords a very striking instance of the wonderful power with which the animal system is endowed, of accommodating itself to new and very difficult situations, producing deviation from the natural order of things in the vital economy." B.

ART. II. *Observations on the Claims of the Moderns to some Discoveries in Chemistry and Physiology.* By G. D. YEATS, M. B. of Hertford College, Oxford; Member of the Royal Medical Society of Edinburgh; and Physician at Bedford. DEBRETT, London. 1798. Octavo. 403 pages. With two plates, and an elegant engraving of Dr. MAYOW. Price 7*s*.

WHEN Dr. Yeats became acquainted with the more recent theories in chemistry and physiology, he was taught to believe, that they had been exclusively broached by the philosophers of the present day; but having applied himself to the reading of authors of more early date, he was surprised to find that not only many of the modern theories had been delivered and explained, but also that a consequent

practice had been adopted and followed. The more he examined into their writings, the more he was confirmed in the belief, that the labours of many ingenious men had been unaccountably overlooked, or greatly misrepresented. He remarks that chemistry, in particular, which has blazed with such superior lustre from the continent, forms a distinguished portion of the effects of modern research.

It is certainly, *primâ facie*, a matter of astonishment how it happens, that theories and experiments, clearly and fairly explained, should have escaped the observation of medical men, till more recent investigation attracted their attention to the subject. Dr. Yeats suggests that the doctrine of the convertibility of air into other substances, and *vice versâ*, is very ancient: even as far back as the time of Pythagoras, we trace a remarkable coincidence between his doctrine and that of modern times. The sentiments of this Sage are happily explained by a passage in the fifteenth book of Ovid's Metamorphoses, ver. 237: Lucretius also has mentioned the same theory in the 5th book, ver. 274, of his work De Rerum Natura.

It was conceived by Mr. Boyle, that water might be converted into air; and he mentions an experiment, by which he supposed that change took place. This honourable experimentalist invented a variety of ingenious contrivances for prosecuting his researches: he found that animals and insects of different kinds could not survive one moment without air; and he subjoins some observations (doubts, as he calls them) upon respiration, intimately connected with his experiments. Boyle relates an invention of Cornelius Debrell (who was deservedly celebrated for his skill in chemistry and mechanics), by means of which a boat with twelve rowers, beside passengers, was rowed under water in the river Thames. Debrell imagined that it was not the whole body of air, but a certain quintessence or spirituous part of it, that served for respiration; and which being consumed, the re-

remainder of the air became effete, or lifeless, and unable to maintain the vital flame residing in the heart: he had a secret chemical liquor, by a supply of which he occasionally restored to the injured air so much of its vital part, as enabled it to serve for respiration some time longer. Boyle believed, from his own experiments, that a *new* similarity subsisted between life and combustion; but he did not understand how the air in respiration could arrive at the heart, and increase the heat of the blood.

Dr. Mayow, who was contemporary with Boyle, during his advanced years, farther explained the pneumatic chemistry: his invention of a pneumatic apparatus, the happy manner in which he executed his experiments, and the application of his discovery of vital air to the phenomena of respiration and combustion, must give us a high idea of his genius. The works of this physician certainly contain a great part of those striking truths which have given reputation to the names of Priestley, Scheele, Lavoisier, &c. as is attempted to be proved in the present publication; a considerable portion of which is taken up in examining the opinions of Mayow. Dr. Yeats tells us, that several writers, who have already directed the attention of medical men to the works of Mayow, exhibit only defective and unsatisfactory accounts of his *most noble* discoveries; although he pays to each of these gentlemen, their respective tributes of praise for what they have performed, with much laudable zeal.

The plan of our REVIEW will not afford us room to follow the author through all his extended inquiries respecting the claims of the moderns.

The FIRST PART of this volume treats of the fire-air particles of Mayow—Of his salino-sulphureous particles—Of acids—Of the analogy between respiration and combustion—Of the different gases Mayow met with in his experiments—Of respiration—The sentiments of authors contemporary with Mayow, concerning respiration—Mayow's theory of respiration,

respiration, adopted by Wolferstan and Verheyen—Mayow's application of fire-air to vegetation—Of muscular motion—Of the conspiring action of the intercostal muscles—Of digestion, and the use of the spleen—Mayow's explanation of some diseases, from his own doctrines—Of the attention paid to his works after his death—Concluding observations respecting the progress of some opinions since the time of Mayow.

The SECOND PART, containing an history of the absorbent system, is divided into six sections: to which is subjoined an Appendix, comprising some letters from Dr. Beddoes, Dr. Ingenhousz, Dr. Scherer, and the author himself, relative to several subjects handled in the body of the work.—We remark, however, that the celebrated Dr. ROBERT HOOKE has not been once noticed by the author; although, in our judgment, that English philosopher has left behind him very clear traces of what has generally been attributed to Mayow. Dr. Yeats has fallen into the common error of regarding Harvey as the "first person who adopted, *philosophically*, the hypothesis of the life existing in the blood of an animal:" but he will find this opinion fully stated and discussed in a Latin commentary upon Aristotle (de Generatione), published by the university of Coimbra. Nevertheless, we do not hesitate to approve the labours of the author; and think he has rendered justice to certain writers, who had been too much neglected by the moderns.

We shall close this article by an extract concerning the uses of the spleen, a subject which has hitherto baffled the investigation of physiologists:

"The subserviency of the spleen to the liver has been long noticed by anatomists, and considered as its principal, if not its only use; notwithstanding that the idea is contradicted by the remarkable and well-authenticated fact, that animals can live, perfectly well, after the spleen has been cut out, as is observed by Mayow, Baglivi, and innumerable

numerable others. The ingenious Dr. Saunders has made an experiment, which decisively proves that the functions of the liver are altogether independent of the spleen. He examined the bile of a dog, from which the spleen had been removed for several weeks, and found no difference between it and bile under the usual circumstances. When it was found that animals could live without a certain viscus, no wonder that the medical world was perplexed about its use. It is imagined, that a physiologist, now a lecturer in the Borough, has discovered (if it is discovered) the true use of the spleen. It is considered by this gentleman as a reservoir for blood, which is supplied to the chylopoietic organs during digestion. The stomach being distended with food, presses upon that viscus, and prevents the blood from flowing freely through the splenic artery; consequently a greater than usual quantity will be carried to the stomach and pancreas, into which branches from the splenic artery are distributed: hence a greater secretion takes place, from these viscera producing their salutary effects. If this be the whole of the theory, Dr. Haighton will find that he has been anticipated many years ago. We shall first examine what Mayow has said upon this subject.

"That it may be understood what opinion we entertain respecting the use of the spleen, we must here repeat what has been before mentioned, viz. It is probable, that, to support animal life, it is necessary that the animal spirits, *i. e.* the nitro-aerial particles, must be continually passing through the brain, or, at the least, the cerebellum; hence it happens, that if respiration be suppressed, or the pulsation of the heart be interrupted, but for a moment, the more perfect animals are instantly destroyed. The nitro-aerial particles are carried by nerves from the brain to the different parts. The organs of digestion require a greater supply of nitro-aerial particles at one time than at another. It is therefore probable, that the spleen is formed to mix, in-

timately, the nitro-aerial particles with the blood. The functions, therefore, of the spleen are these: 1. That the nitro-aerial particles, which incessantly flowing through the brain, are not all exhausted in the natural and animal functions, might be carried back into the mass of the blood, and intimately united with the same. 2. That the nitro-aerial particles might be properly and regularly supplied to the digestive organs; for as these organs are, more or less, full, so they require a greater or less supply of fermentative particles. 3. That the nitro-aerial particles, endued with a motion and activity, and by being intimately blended in the structure of the spleen with the salino-sulphureous particles, might produce, in the mass of blood, an effervescence, of such a nature as shall exalt its salino-sulphureous particles to a proper volatility. Mayow, we see, considered the spleen as subservient to digestion, not mentioning a single word of its connexion with the liver. He makes use of the term nitro-aerial particles, instead of arterial blood, as it is only in it that the fire-air is conveyed to the different parts of the system. In a work published in 1723, entirely on the spleen, we find the author maintaining, that it is intended to assist digestion*. It is the fullest and best account of the spleen we have ever read; and the author seems to have bestowed very considerable pains upon the subject. After mentioning the opinion of the ancients, respecting its nature and use, and giving a very accurate description of it, he then offers very fully his ideas as to the functions it performs. From the structure, he calls it an animal sponge, the great reservoir and magazine of blood. Mentioning the numerous vessels ramifying through it, he observes, this contrivance in nature can serve no other purpose than most effectually to form a sponge,

* "Of the Spleen, its Description and History, Uses and Diseases, by William Stukely, M. D. C. M. L. and S. R. S. London. 1723."

which,

which, when filled with arterial blood, can, at pleasure, upon its contraction, throw it all out again into the great channel of the splenic vein, or back into the artery, if it be not too full. The great quantity of blood which flows to this viscus, must have been intended by nature to answer some important purpose. The spleen, then, must be said to officiate to the stomach, by pouring in upon it, as it swells in eating, a new quantity of blood, besides that derived in the ordinary course of circulation, which is to procure the required heat and necessary juices in concoction. And that this is not only necessary, but likewise in a very high degree, a little consideration will persuade us. It would occupy too great a portion of the present work to mention the facts and arguments which Stukely brings forward in confirmation of his opinion; suffice it to say, that it was his opinion, that it supplied blood, during digestion, to all the chylopoietic organs, stomach, pancreas, &c. and adds, Mayow's opinion quadrates with ours, only putting blood instead of his favourite nitro-aerious particles, which in due plenty, and with a certain regimen, are carried to the bowels dedicated to the concoction of the aliment." T.

ART. III. *Vade Mecum Medicum, in duas Partes divisum, quarum prior Nosologiam Cullinæam, posterior Compendium Materiæ Medicæ et Pharmacopœiæ exhibet: Quibus subjungitur Systema Formularum recentissimarum, ad Normam Chymiæ recentis ordinatum.* Auctore GULIELMO TAZEWELL, Virginiense, Soc. Med. Par. Sod. &c. Lutetiæ Paris. 1798. Duodecimo, 210 pages. Price 2*s.* 6*d.*

THE plan of this work, which resembles the Vade Mecum lately published by Mr. Townshend, is so fully detailed in the title-page, that it will be unnecessary for us to say much respect-

respecting its contents. It appears to have been compiled with a good degree of judgment; and the latter part, which contains a number of formulæ expressed in the new terms, may probably afford some assistance to those who are desirous of introducing into their prescriptions the language of modern chemistry. N.

ART. IV. *Description and Treatment of Cutaneous Diseases. Order* I. *Papulous Eruptions on the Skin.* By ROBERT WILLAN, M. D. F. A. S. Quarto, 110 pages, with seven coloured plates. Price 15*s*. 1798. JOHNSON, London.

DR. Willan here presents the public with the first part of a very valuable and splendid work, proposed to be completed in seven parts, which are to comprehend the subsequent appearances of the skin: viz. pimples, scales, rashes, vesicles, pustules, tubercles, and spots. The generic distinctions to be comprised under each order will be as follows:

ORD. 1. Strophulus (red-gum, tooth eruption, &c.)—Lichen (spring eruption, scorbutic pimples, &c.)—Prurigo (gratelle, or universal itching of the skin).

ORD. 2. Lepra (leprosy of the Greeks)—Psoriasis (dry or scaly tetter)—Pityriasis (dandriff)—Icthyosis (fish-skin).

ORD. 3. Rubeola (measles)—Scarlatina (scarlet fever)—Urticaria (nettle-rash)—Roseola (summer-rash, or rose-rash)—Purpura (purple or scorbutic rash)—Erythema (red rash).

ORD. 4. Erysipelas (St. Anthony's fire) — Pemphigus (vesicular fever)—Pompholyx (water-blebs)—Herpes (ring-worm, shingles, wildfire, &c.)—Varicella (chicken-pox)—Miliaria (miliary eruptions) — Eczema (heat-eruption) — Aphthæ (thrush).

ORD. 5. Impetigo (running scab)—Ecthyma (ulcerated tetter) — Variola (small-pox) — Scabies (itch) — Porrigo (scald-head, &c.).

ORD. 6. Phyma (boils, carbuncles, &c.) — Verruca (warts)

(warts)—Acne (stone-pock; red, tuberculated face, &c.) — Lupus, or Noli me tangere — Elephantiasis (Arabian leprosy)—Frambæsia (yaws).

Ord. 7. Ephelis (sun-spots) — Nævus — Spilus, Moles and other original marks.

In the introduction, the author points out the great confusion that exists in the writings of the ancients on this branch of medicine; and attributes the imperfections of modern writers to their wishing to reconcile the descriptions given by the Greek and Arabian physicians with each other, and to their not having furnished additional materials from their own observation and experience.

"The desiderata in regard to cutaneous diseases" Dr. W. states to be,

"1. To fix the sense of the terms employed, by proper definitions.

"2. To constitute general divisions or orders of the diseases, from leading and peculiar circumstances in their appearance: to arrange them into distinct genera: and to describe at large their specific forms, or varieties.

"3. To classify and give names to such as have not been hitherto sufficiently distinguished.

"4. To specify the mode of treatment for each disease."

In order to convey distinct ideas on the subject, every genus is elucidated by beautifully coloured engravings, representing several of its striking varieties: this method is new, and deserving our warmest approbation. After giving suitable definitions of terms, the author proceeds to the description, classification, and treatment, of the several generic affections and their species, under the Order *Papulæ*.

The appearances termed Papulæ, may be considered as enlargements of the papillæ of the skin, occasioned by a strong determination of blood to them, sometimes attended with a degree of inflammation. The small papillæ thus enlarged elevate the cuticle immediately above them, and ap-

pear red. A slight effusion of lymph often takes place in these circumstances, and gives a pustular form to several of the papulæ: but the fluid is re-absorbed without breaking the cuticle.

"Genus I. The STROPHULUS. A papulous eruption, peculiar to infants, exhibiting a variety of forms, which may be described under the titles of,

"1. *Strophulus Intertinctus*, usually called the red gum. The papulæ characterizing this affection rise sensibly above the level of the cuticle, are of a vivid red colour, and commonly distinct from each other. Their number and extent vary much in different cases. They appear most constantly on the cheeks, fore-arm, and back of the hand; but are sometimes diffused over the whole body. The papulæ are, in many places, intermixed with stigmata, and often with red patches of a larger size, which do not however occasion any elevation of the cuticle. A child's skin thus variegated, somewhat resembles a piece of red printed linen: and hence this eruption was formerly denominated the red gown.

"With regard to the treatment of this form of strophulus, much need not be said. The common mild appearance of it being consistent with a healthy state of all the functions of the body, requires no medicinal application. It is, however, adviseable to keep the skin clear from sordes, and to promote equable perspiration. This may be done best by daily ablutions with tepid water, which prove useful in most cutaneous disorders, and will be found of considerable importance with respect to the general health of infants.

"Some further considerations are requisite where the eruption is more obviously connected with the morbid state of the stomach and bowels. In this case very much depends on proportioning the aliment to the digestive powers: and, with a view to invigorate them, such modes of exercise must be employed, as can be conveniently borne by infants. When the eruption has been repelled from the skin, in consequence

sequence of improper exposure to cold, or otherwise, and produces internal disorder, a warm bath is the remedy found most effectual: it presently relieves the urgent symptoms, and often recalls the eruption.

"2. *Strophulus Albidus*, by some termed the white gum, is merely a variety of the strophulus intertinctus; but deserves some notice on account of the different appearance of its papulæ. In place of those described as characterizing the red gum, there is a number of minute, whitish specks, a little elevated, and sometimes, though not constantly, surrounded by a slight redness. These papulæ, when their tops are removed, do not discharge any fluid: it is however probable that they are originally formed by the deposition of a fluid, which afterwards concretes under the cuticle. They appear chiefly on the face, neck, and breast, and are more permanent than the papulæ of the red gum. In other respects they have the same nature and tendency, and require a similar plan of treatment.

"3. *Strophulus Confertus*. An eruption of numerous papulæ, varying in their size, appears on different parts of the body in infants during dentition, and has thence been denominated the tooth rash: it is sometimes also termed the rank red gum.

"4. The *Strophulus Volaticus* is characterized by an appearance of small, circular patches, or clusters of papulæ, arising successively on different parts of the body. The number of papulæ in each cluster is from six to twelve. Both the papulæ and their interstices are of a high red colour. These patches continue red, with a little heat or itching, for about four days; when they turn brown, and begin to exfoliate. As one patch declines, another appears at a small distance from it, and in this manner the complaint often spreads gradually over the face, body, and limbs, not terminating in less than three or four weeks. During that time the child has sometimes a quick pulse, a white

tongue, and seems uneasy and fretful. In many cases, however, the eruption takes place without any symptoms of internal disorder.

" This eruption being sometimes connected with a disorder of the stomach and bowels, it becomes requisite to administer a gentle emetic, or some laxative medicines; after which the decoction of Peruvian bark will be found of advantage. No external application seems necessary.

" 5. *Strophulus Candidus*. In this form of strophulus the papulæ are larger than in any of the foregoing species. They have no inflammation round their base; their surface is very smooth and shining, whence they appear to be of a lighter colour than the adjoining cuticle. They are diffused, at a considerable distance from each other, over the loins, shoulders, and upper part of the arms: in any other situation they are seldom seen.

" This eruption affects infants about a year old, and most commonly succeeds some of the acute diseases to which they are liable.

" Genus II. Lichen. An extensive eruption of papulæ affecting adults, connected with internal disorder, usually terminating in scurf, recurrent, not contagious.

" 1. The *Lichen Simplex* usually commences with headach, flushing of the face, loss of appetite, general languor, and increased quickness of the pulse. Distinct, red papulæ arise first about the cheeks and chin, or on the arms; and in the course of three or four days, the same appearance takes place on the neck, body, and lower extremities, accompanied with an unpleasant sensation of tingling, which is somewhat aggravated during the night. In about a week the colour of the eruption fades; and the cuticle begins to separate. The whole surface is at length covered with scurfy exfoliations, which are particularly large, and continue longest in the flexures of the joints. The duration of the complaint is seldom in any two cases alike: ten, fourteen, seventeen, or some-

sometimes twenty days intervene betwixt the eruption and the renovation of the cuticle.

"The febrile state, or rather the state of irritation, at the beginning of this disorder, is seldom considerable enough to confine the patient to the house: after remaining five or six days, it is generally relieved on the appearance of the eruption.

"This, as well as some other species of the lichen, occurs about the beginning of summer, or in autumn; more especially affecting persons of a weak and irritable habit: hence women are more liable to it than men.

"The strophulus intertinctus differs from this affection by the vivid redness of its papulæ, by the intermixture of diffuse red spots among them, and by being peculiar to infants; whereas, the lichen mostly occurs in adults.

"2. The *Lichen Agrius* is preceded by nausea, pain in the stomach, head-ache, loss of strength, and deep-seated pains in the limbs, with fits of coldness and shivering; which symptoms continue several days, and are sometimes relieved by the papulous eruption. The papulæ are distributed in clusters, or often in large patches, chiefly on the arms, the upper part of the breast, the neck, face, back, and sides of the abdomen: they are of a vivid red colour; and have a redness, or some degree of inflammation, diffused round them to a considerable extent, and attended with itching, heat, and a painful tingling. When the patient becomes warm in bed the redness increases; and there is a strong sensation of burning and smarting, for an hour or more, as if the parts affected had been severely scalded. The same effect is produced at any time by washing, especially if soap be used; also by violent exercise, or by drinking wine. In the morning, the papulæ subside, the inflammation in a great measure disappears, and no uneasiness is felt till after dinner, unless excited by the above-mentioned, or other similar causes. Some small pustules, filled with a straw-coloured fluid,

fluid, are occasionally intermixed with the papulæ. These arise dispersedly on the arms, about the roots of the hair, on the forehead or temples, and often on the fingers, but are not permanent.

" By a long continuance, or by frequent returns of the heat and redness, the cuticle of the parts chiefly affected is at length altered in its texture, becoming harsh, thickened, chappy, and exquisitely painful on being rubbed or handled.

" The duration of this complaint, and the modes of its termination, are equally various.

" The diffuse redness connecting the papulæ, and the tendency to become pustular, distinguish the lichen agrius from the lichen simplex, and the other varieties of this complaint, in which the inflammation does not extend beyond the bases of the papulæ; and which terminate in scurf or scales.

" 3. *Lichen Pilaris.* This is merely a modification of the first species of Lichen; and, like it, often alternates with complaints of the head or stomach, in irritable habits. The peculiarity of the eruption is, that the small tubercles or asperities appear only at the roots of the hairs of the skin, being probably occasioned by an enlargement of their bulbs, or an unusual fulness of the blood-vessels distributed to them. This affection is distinguishable from the cutis anserina by its permanency, by its red papulæ, and by the troublesome itching or tingling which attends it. If a part thus affected be violently rubbed, some of the papulæ enlarge to the size of wheals, but the tumour soon subsides again. The eruption continues more or less vivid for about ten days; and terminates, as usual, in small exfoliations of the cuticle, one of which surrounds the base of each hair. This complaint, as likewise the Lichen Agrius, frequently occurs in persons accustomed to drink largely of spirituous liquors undiluted.

" For the Lichen Simplex and Lichen Pilaris, but little medicinal

medicinal treatment is necessary. It is sufficient that patients avoid heating themselves by much exercise, or by stimulants, and take a light diet, with mild, cooling liquors, and some gentle laxatives occasionally.

"The lichen agrius often requires a more active mode of practice. It is useful to give, at intervals, two or three moderate doses of calomel as a purgative; and afterwards, for some weeks, the vitriolic acid, three times a day, in the infusion of roses, or with a decoction of Peruvian bark. Any sharp or stimulating application made to the skin, when rough, inflamed, and chappy, very much aggravates the complaint, and produces an intolerable smarting. A mild, cooling unguent will, however, contribute to allay the troublesome heat and itching: and for this purpose I have found nothing more advantageous than the unguentum rosatum, or the rose pomatum sold by perfumers.

"4. *Lichen Lividus.* The papulæ characterizing this eruption are of a dark red, or livid hue, and somewhat more permanent than in the foregoing species of lichen. They appear chiefly on the arms and legs, but sometimes extend to other parts of the body. They are finally succeeded, though at very uncertain periods, by slight exfoliations of the cuticle; after which a fresh eruption usually takes place, and in this manner the complaint is prolonged for several months. The eruption is not preceded, nor attended by any febrile symptoms. It principally affects persons of a weak constitution, who live on a poor diet, and are engaged in laborious occupations. Young persons, and often children living in confined situations, or using little exercise, are also subject to the lichen lividus: and in them the papulæ are generally intermixed with petechiæ, or larger purple spots, resembling vibices. This circumstance points out the affinity of the lichen lividus with the Purpura, or Land-scurvy; and the connexion is further proved by the exciting causes, which are the same in both complaints.

The same method of treatment is likewise successful in both cases. They are presently cured by nourishing food, moderate exercise in the open air, along with the use of Peruvian bark, and vitriolic acid, or the tincture of muriated steel.

"An eruption similar to the lichen lividus often occurs as one of the secondary appearances of the lues venerea, and requires a distinct consideration. It may be distinguished from the scorbutic form of the lichen lividus by the following particulars: 1. The papulæ are smaller, more numerous, and more generally diffused over the surface of the body. 2. When the eruption has continued for some time, the tops of the papulæ are flattened, and often depressed. 3. The Siphylitic Lichen seldom becomes scurfy, neither does it, like the other species, ever disappear spontaneously, nor by any change in the patient's diet, but has a termination peculiar to itself: the papulæ, in several clusters, assume a pustular form, and suppurate; being at length succeeded by considerable ulcerations, which can only be healed by a proper mercurial course.

"5. *Lichen Tropicus.* By this term I mean to express the PRICKLY HEAT, a papulous eruption almost universally affecting Europeans settled in tropical climates.

"Genus III.—PRURIGO. An itching of the skin, accompanied with an eruption of papulæ, the colour of which exceeds that of the adjoining cuticle.

"1. The *Prurigo Mitis* originates without any previous indisposition, generally in spring, or the beginning of summer. It is characterized by soft and smooth elevations of the cuticle, somewhat larger than the papulæ of the Lichen, from which they also differ by retaining the usual colour of the skin; for they seldom appear red, or much inflamed, except from violent friction. When persons affected with it neglect washing their skin, or are uncleanly in their apparel, the eruption grows more inveterate; and at length changing

changing its form, often terminates in the itch. Pustules arise among the papulæ, some filled with lymph, others with pus: the acarus scabiei begins to breed in the furrows of the cuticle; and the disorder becomes contagious.

"The mode of cure in the first stage of this species of Prurigo is very simple: it is only requisite to employ frequent bathing, or washing with tepid water; which must be persisted in regularly, even though some aggravation of the symptoms, at first, arise from it. By its continuance, the skin is cleansed and softened, perspiration becomes free and copious, the eruption and itching gradually disappear.

"2. The *Prurigo Formicans*, is a much more obstinate and troublesome disease than the foregoing. The itching is complicated with other sensations, which are variously described by patients. They sometimes feel as if small insects were creeping on the skin; sometimes as if stung all over by ants; sometimes as if hot needles were piercing the skin in divers places. On standing before a fire, on undressing, and more particularly on getting into bed, these sensations become most violent; and usually preclude all rest during the greater part of the night. When any part of the skin is strongly rubbed, it becomes red; and large tubercles or wheals are excited, which however subside as soon as the irritation ceases. The cuticle being abraded by the repeated application of the nails to allay the troublesome sensation of itching, the surface of the body is every where spotted with small thin scabs.

"Although the Prurigo Formicans is never, like the former species, converted into the itch, yet it does occasionally terminate in a pustular disease, not contagious, and constituting one of the species of Impetigo.

"It is extremely difficult to relieve the Prurigo Formicans, either by internal or external remedies.

"Fixed alkali seemed to answer better than any of the other remedies: I employed the natron preparatum of the

London Dispensatory, sometimes alone, sometimes in combination with sulphur: at the same time, an infusion of sassafras, or the tops of juniper, was drunk freely. Under this course the disagreeable symptoms were gradually alleviated, and the complaint disappeared in a month or six weeks. The Oleum Tartari per deliquium, with a small proportion of the tincture of opium added to it, was equally efficacious."

With regard to external applications, Dr. Willan has observed considerable advantage from baths prepared with alcalized sulphur: sea-bathing also, in some cases, entirely removed the complaint.

"3. *Prurigo Senilis.* This affection does not differ much in its symptoms and external appearances from the Prurigo Formicans; but has been thought by medical writers to merit a distinct consideration, on account of its peculiar inveteracy.

"The remedies mentioned under the article of Prurigo Formicans are of no avail in the present complaint. A warm bath is the only application which allays the itching and irritation; but its effects are in general merely temporary. Somewhat more advantage is experienced from baths of warm sea-water, or of the sulphureous waters at Harrogate, &c. The latter should at the same time be taken internally; and, on the whole, I think it may be considered as the best remedy for this complaint, with which we are yet acquainted.

"In one case of the Prurigo Senilis, I accidentally observed a number of small insects on the patient's skin and linen."

In connexion with the foregoing series of complaints, the author mentions some pruriginous affections, which are merely local. His observations are confined to the most troublesome of these, seated in the podex, præputium, urethra, pubes, scrotum, and pudendum muliebre. C.

ART.

ART. V. *A Collection of Engravings, representing the most modern and improved Instruments used in the Practice of Surgery: with appropriate Explanations.* By J. H. SAVIGNY, Surgeons Inſtrument-maker, London. 1798. Folio. Price 3*l.* 3*s.*

THE author of this curious publication informs us, that, in the course of nearly twenty years engagement in the business of instrument-making, he has frequently had cause to lament, as a workman, that we were not better furnished with engravings and suitable explanations of the numerous articles which constitute indispensable appendages to a branch of science, peculiarly dignified by its importance to mankind, by the superior talents of its professors, and by its rapid and astonishing improvements: he has still more deeply regretted that such a deficiency should exist in this country (justly famed for the cultivation and encouragement of every description of useful arts), when, in two others, works have been published, in which the accomplishment of what he now aims at has been very nearly attained. He means those of *Brambilla* at Vienna, and *Peret* at Paris. Mr. Savigny does not intend to depreciate the merit, or lessen the utility of those excellent performances; but he conceives that the engravings in the former are so ill executed as almost to defeat their design, while the latter (whose plates are finished in a style altogether as masterly) has admitted so many tedious minutiæ, both in the designs and letter-press, that much useful information is thereby excluded.

In compiling and explaining these engravings, the author has undoubtedly rendered an important service to his fellow-workmen, in the prosecution of their callings, and has also furnished a convenient addition to the libraries of professional gentlemen, especially those who reside at a distance from the metropolis. He has not here entered into a com-

a comparative history of old and new instruments, nor represented those which are now obsolete; but has confined himself to such as are most approved, and generally in use at the London hospitals. In the descriptive part of the performance, he has pointed out the particular inventions of distinguished surgeons; and, as occasion required, he has given a detail of the alterations and improvements suggested by himself. It is a peculiar advantage, that the different engravings represent the exact size and proportion of their respective archetypes; except in some large machines, which are reduced to a proper scale. In the general arrangement, due attention has been paid to the connexion and uses of the instruments. The first artists have also been employed, both for the letter-press and copper-plate work; so that, upon the whole, this undertaking (which comprises thirty-nine large engravings) is likely to remain a lasting monument of Mr. Savigny's skill and liberality. V.

ART. VI. *A System of Dissections, explaining the Anatomy of the human Body, the Manner of displaying the Parts, and their Varieties in Disease.* With plates. By CHARLES BELL. Part I. Containing the Dissection of the abdominal Muscles and Viscera. Folio. 48 pages. Edinburgh. 1798. MUNDELL. Price 5*s*.

THE intent of this work, says the author, "is to serve as an assistant to the student, in acquiring a knowledge of practical anatomy; in gaining a local memory of the parts; in learning to trace them upon the dead subject, and to be able to represent them to his own mind upon the living. This being my object, the method to be pursued is obvious: to give a short detail of the anatomy; to show how the parts are to be laid open, and how they are to be distinguished in dissection, or avoided in an operation; to explain

explain the consequence of each part to the great functions of the body, and to mark the diseases to which it is liable."

In the execution of a work of such a nature, Mr. B. appears to have adopted a plan which cannot fail greatly to assist in the acquirement of this important science, by enabling students to surmount those difficulties they in general labour under during their first attempts in the dissecting-room. In the introduction, the several methods of injecting and preparing the parts are succinctly enumerated; together with the chief circumstances to be attended to during a common course of dissections.

We give Mr. Bell's account of the dissection of the abdominal muscles, as a specimen of his style. On referring to the original, the reader will perceive, now and then, an improper deviation from the established orthography.

First stage of the dissection. "In your first dissection you have only one muscle on each side of the belly to dissect; for the outer oblique muscle covers all the others.

"The obliquus externus abdominis arises by triangular fleshy slips from the lower edge of the eight lowermost ribs; its muscular fibres proceed downwards obliquely over the cartilages of the ribs, and also obliquely downwards over the free space betwixt the borders of the chest and the spine of the ilium. Terminating its muscular part abruptly, it sends its expanded tendon over all the fore part of the belly, and is inserted into the spine of the ilium, Poupart's ligament, into the os pubis, and into the whole length of the linea alba, which is only the interlacing of this with the tendon of the musele of the opposite side.

"Dissection. Making an incision through the integuments from the sternum to the os pubis, and crossing it with another passing immediately below the umbilicus, and round the side in the direction of the curve of the ilium, you dissect the lower flaps from the lower part of the belly, laying them over the thighs; and the upper flaps, when

dissected, you lay over the breast. In doing this, you perceive that you have two very different surfaces to dissect. 1. The muscular fibres of the obliquus externus, lying on the side betwixt the ribs and ilium, and the thin layers of its fibres which lie upon the surface of the thorax, and which are very apt to be destroyed in first lifting the integuments; and, 2. You have to dissect the expanded tendon on the fore part of the belly. In dissecting the muscular part, you will find it covered by a thin expansion, adhering closely to the fibres; and if you take the fat and integuments off, leaving the muscle with the cellular substance and slight aponeurosis adhering to it, you will never make a clean muscle, however carefully you afterwards dissect it. You are therefore to carry your knife close to the surface of the muscle, and to disentangle its fibres from the membranous covering and integuments, by long and equable strokes, carried in the direction of the fibre. This is the method which you ought to pursue in muscular dissections, when there is no fascia to be exposed, nor branches of injected vessels to be avoided. But you are not to proceed in the same manner in the tendinous and fore part of the abdomen, at least in your first attempts; for you would be in danger of lifting the outer layers of this sheet of tendon of the external oblique muscle, and, led away by the appearance of a beautiful shining surface (which may be nothing else than the tendons of the lower layer of muscles), destroy the beauty of the parts, and make confused and irregular work. Therefore, take off the integuments in a mass, from the fore part of the belly; and when you see all the general surface exposed, you cannot proceed far in dissecting off the condensed cellular substance from the surface of the tendon, without observing the confusion into which such irregularity will lead you.

"In the course of the dissection of this single muscle, all these points must be minutely attended to; the linea alba,

alba, the linea semilunaris, and the anatomy of the ring.

" To understand these lines which divide the tendon of the external oblique muscle, it is necessary to remember the situation of the recti muscles. They reach from the sternum to the os pubis. Each arises from an extensive adhesion to the outer surface of the sternum, and to the cartilages of the ribs, and proceeding down in the middle of the belly, included in an appropriated sheath, is inserted into the os pubis. This sheath is stronger upon its outer part, because when the body is strongly bent forwards, and the surface of the belly is concave, the recti muscles, were they held only by the elastic skin, would start from their places, and make a direct line from the sternum to the pubis; but this strong sheath in which they are included, being composed of the tendons of the broad muscles, bends as they bend, and consequently the recti acting thus in a curve, act more powerfully in drawing the thorax towards the pubis. The sheath of each rectus muscle, as I have said, is formed by the tendons of the flat muscles of the belly, proceeding from behind forwards. These, when they reach the side of the rectus muscle, mingle their tendons more intimately together, which appears externally as a white semilunar line running round in the direction of the skirts of the rectus muscle; and these broad tendons splitting again, include the rectus in their duplicature, and meeting beyond that muscle, form the tendinous white line in the middle of the belly, called the linea alba. The rectus muscle does not run unconnected in this sheath, nor does it form one continued tract of muscular fibre; but the intermediate tendons which divide it into square muscular portions are firmly connected with the sheath, while the muscular part adheres to it by loose cellular substance. Therefore when the external muscle of the belly is carefully dissected, you can distinguish these parts: First, The origins of the muscle from the side of the thorax, coming down in thin

layers over the ribs. Secondly, A stronger and more fleshy part winding round the side betwixt the false ribs and the ilium. Then the expanded tendon on the fore part of the belly divided by the linea alba, which goes up the middle of the belly, and the linea semilunaris, running up from the os pubis in a curved line, a little to one side. In the space included betwixt these two lines, you may observe indistinctly the rectus shining blue and livid through the transparent tendon of the oblique muscle, and intersected with white interstices or ribs formed by its intermediate tendons.

"The ring. But the most important part of this first dissection still remains to be described, viz. the anatomy of the ring. When dissecting the lower part of the abdomen near the pubis, you find the fibres of the tendon coming down obliquely to be inserted into the ligament of the thigh; and indeed the ligament of the thigh is nothing but the strengthening of the tendons of the external and internal oblique muscles at this place, where they pass over from the ilium to the thigh, are continued into one another, and form a ligament which allows the vessels of the thigh to pass freely out from the belly. Dissecting still nearer the pubis, just as the tendon is about to be inserted into that bone, you see it splitting, and allowing the spermatic cord to slip through its fibres, and then meeting again, its fibres cross each other, and are at the same time firmly implanted into the crest of the os pubis. Continuing to dissect the integuments off these parts, and a little down upon the thigh, observe the situation of the femoral artery, of the epigastric branch, of the spermatic cord, and all the parts implicated in the femoral and inguinal hernia.

"In taking off the skin from the groin, you find a confused and irregular aponeurosis coming off from the abdomen, and going down upon the thigh, apparently made up of, or strengthened by, the close intermixture of cellular substance. At this part you find it covering the femoral artery;

artery; the inguinal glands lying without it, and the vena saphæna major sinking through it to join the femoral vein, about an inch below Poupart's ligament. You find also, where the thigh is injected, the small arteries rising perpendicularly from the great trunk, to supply these glands, and the other superficial parts. This irregular aponeurosis being in the femoral hernia matted and condensed by inflammation, forms a coat, which must be cut through before the peritoneal sac is opened.

" After dissecting and observing the natural texture and situation of this aponeurosis, and its probable changes in disease, sacrifice it to a more important demonstration, or leave it on one thigh, while you proceed with the dissection of the other. Thus, taking away these confused parts, expose neatly the ligament of the thigh. Dissect the artery and vein in the angle of the groin, where they lie imbedded; then, dissecting delicately with your scissars, under the ligament, you find proceeding from the upper part of the femoral artery two branches, the arteria circumflexa ilii, and the epigastric artery. The first of these you find running back along the inside of the ligament, towards the ilium, to inosculate with the ilio-lumbar artery; the latter is the more important, the epigastric artery. You may observe the direction of its course; it runs up upon the inside of the tendons of the abdominal muscles, making its way to the rectus muscle, on the inside of which it climbs, even till it inosculate with the internal mammary, which is the first branch of the subclavian artery. In this course it crosses the upper part of the ring, and crosses the spermatic cord. Now you observe that the femoral hernia, coming down on the inside of the femoral artery, the epigastric artery and the spermatic cord must pass before the neck of the sac, so as to hinder the free incision of it when strangulated; and you see how difficult it must be to cut thread by thread exactly in the middle point betwixt

the epigastric artery and the cord, especially when you recollect how different the appearance of these parts is in hernia, after continued inflammation.

" These are parts of such importance, that you ought to consider them in every possible shape in which they can occur. You see that the direction of the inguinal hernia must follow the course of the cord, that it will be nearer to the pubis, and higher up; that the seat of the femoral hernia is in the flexure of the groin; and that if the hernia is not very large, and the parts swelled, the ring, and the cord from the ring to the testicle, should be free. You have to observe how the arch, which is formed by Poupart's ligament, over the vessels and muscles coming from within the belly, is filled up with fat and cellular substance, and how the vessels lie imbedded in it. You find the vein lying more towards the pubis than the artery, and the small inguinal branches of the artery rising to supply the inguinal glands; these arteries sometimes bleed profusely in opening buboes in the groin.

" *Second stage of the dissection.* Presuming that you have paid equal attention to the dissection of the muscles of both sides of the belly, you proceed thus: Dissect off the serrated origines of the external oblique muscle from the ribs, and from the space between the ilium and false ribs, and detach it from the obliquus internus, which lies below it. You will recollect that the obliquus internus ascends from the ilium, spreading its fan-like fibres in a direction which forms an acute angle with the fibres of the external muscle which you are dissecting off. Continue to separate the external and internal oblique muscles, till you find them firmly attached by their tendons to the linea semilunaris. Betwixt them there is interposed some loose cellular substance, which mars the beauty of the lower muscle if not carefully dissected away; and you find them connected by the branches of the arteries and veins piercing them to gain the

skin

skin and cellular substance. Observe the origines of the obliquus internus abdominis from the spine of the ilium, and apparently also from the mass of muscular and tendinous origines of the muscles of the back (you will find it very difficult to dissect its origines from the spine, as described in books). Those fibres of the muscle which originate from the back part of the spine of the ilium, run directly upwards to the cartilages of the false ribs. From the fore part of the ilium its fibres are continued more in a direction across the belly, and from its lowest portion which runs directly downwards in the direction of the external oblique, you find it sending off, behind the external ring, a delicate fasciculus of fibres which invest the spermatic vessels, and forms the origine of the cremaster muscle.

" The belly of the internal oblique muscle ends in a uniform edge, and its tendon is finally inserted into the linea semilunaris : but here it is to be remembered, that some anatomists have described its tendon as splitting into two layers, one forming, with the external oblique, the outer part of the sheath of the rectus; the other forming the inner part, with the tendon of the transversalis abdominis.

" This inner oblique muscle, when dissected, should be left in its seat, and the outer muscle replaced over it. Then making an incision by the side of the linea alba, which opens the sheath of the rectus, you dissect it back towards the linea semilunaris. In doing this you must separate carefully the sheath from the tendinous bars of the rectus muscle, for at these parts they are firmly blended together. Towards the bottom of the sheath, you find the pyramidal muscles running up from a broad origine upon the os pubis, to an acute point inserted into the linea alba. The two pyramidal muscles rising together, one on each side of the middle abdominal line, form a cone that is sometimes observable, shining through the strong sheath which covers them. These parts being completely dissected, return them

to their former place; and having continued the dissection of the muscles of the other side exactly in the same manner, proceed after this method:

"The tendon of the internal oblique muscle is to be cut from its connexions with those of the other muscles at the linea semilunaris: then dissect the muscle back towards its origine upon the spine of the ilium; and laying it over the haunch, you have an opportunity of observing the course of the transversalis abdominis. You find its fibres running across the belly, more in the direction of the external oblique, than in that of the last dissected muscle. You see it arising fleshy, from six of the lower ribs, upon their inside (which has allowed some anatomists to describe minutely its digitations with the diaphragm), and tendinous, from the mass of muscles upon the loins. It runs a little round towards the side, where the strongest part of the muscle is formed. It arises likewise from the spine of the ilium, and even from the outer part of the ligament of the thigh. It is inserted into the linea alba, having previously connected itself with the linea semilunaris. It will be observed, that towards the lower part of the belly, this muscle appears deficient, and the bowels are seen through the peritoneum, the outer surface of which is covered with much confused cellular substance, and unlike its smooth inner surface, which is applied to the intestines.

"These parts being thus dissected, can be demonstrated in such various views, and with such quick succession, lifting and replacing them, that they cannot fail to be effectually understood; and having carefully observed their strict anatomy, no one can be at a loss to recapitulate their general characters and uses.

"It may be observed in the skeleton how great a space there is to be covered from the edge of the thorax to the brim of the pelvis, and backwards to the spine; and recollecting, that in this space are contained the soft viscera of

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the abdomen, and that these must be sustained by an elastic and yielding covering, it will be understood how this covering, whilst it supports the viscera, and yields to and assists the operation of the diaphragm, must support and poise the whole trunk upon the pelvis; and that although the muscles of which it consists be thin and delicate, yet, having so great a lever as the edge of the thorax, while the centre of motion is at the spine, it bends the upper part of the body with great force.

"The diseases connected with the anatomy of these muscles are, hernia, dropsy, and abscess.

"It is wrong to cut across the belly in opening collections of matter amongst these muscles, unless they have been destroyed by the matter; because the fibres of the muscles are then cut across, hence they retract, and form a gap; and at the same time the possibility is increased of wounding the epigastric artery which runs up the belly. By opening these abscesses with an incision parallel to the fibres of the muscles, the parts are divided, without allowing the muscles to retract; and the chance of wounding the arteries is lessened. In tapping for the dropsy, it is said that the epigastric artery is sometimes wounded, or its accompanying vein. But it should be expected, when these were wounded, that while the canula remained in the wound, distending the orifice, they should not bleed: if they should bleed, however, they may probably be stopped by pressing the canula obliquely to one side. I have never seen an accident of this kind; but such cases have been described to me, where the deluge of waters was coagulated in the tub. Perhaps an enlarged spleen, or some of the viscera touched with the trochar, may sometimes account for such a bleeding."

The remaining dissections are, the dissection of the viscera of the abdomen, which includes the manner of opening the body and observing the general situation of the viscera,

viscera, and the effects of disease upon those parts; the mode to be pursued to inject the vessels of the abdomen, and their dissection after injection; of the trunk of the vena portæ; of the arteries and veins of the stomach; of the liver, gall ducts, and pancreas; the peculiarities in the situation of the vessels of the abdomen; and, lastly, an exposition of the parts which are seen upon removing the viscera from the abdomen, as the diaphragm, the kidneys and ureters, the aorta and vena cava.

These descriptions are accompanied by four well-designed and elegantly engraved plates, illustrative of the various parts that occur in the dissections. D.

ART. VII. *A Series of Engravings, accompanied with Explanations, which are intended to illustrate the morbid Anatomy of some of the most important Parts of the human Body. Fasciculus I. Comprehending the chief morbid Appearances of the Heart, and of the Aorta near its Origin.* By MATHEW BAILLIE, M. D. F. R. S. Fellow of the Royal College of Physicians, and Physician to St. George's Hospital. London, JOHNSON. 1799. Large quarto. 23 pages. Price 12*s*.

THE medical world has been favoured with two editions of Dr. Baillie's valuable book on the morbid anatomy, or diseased structure, of the human body; to name which, at this period, is a sufficient commendation: but we were still in want of an undertaking, calculated to illustrate these changes of structure by a series of engravings. The present Fasciculus is offered by the author as a specimen of a regular work of that kind, which he promises to continue with diligence, if encouraged by the public opinion.

In the plan he proposes to follow, more attention will be paid to express accurately the exact changes of structure which take place in the most important parts of the

body,

body, than has hitherto been done. "The greater number of engravings upon this subject which I have seen (the author observes) represent rather the general appearance of morbid parts, than the real changes of structure which are produced by disease. This defect I shall attempt in some measure to remedy, by representing commonly, sections of morbid parts; but the art of engraving is perhaps incapable of arriving at such a degree of perfection, as to represent very accurately many of the finer changes of structure, which various parts of an animal body undergo by disease."

It does not seem requisite to exhibit, by engravings, ALL the diseased alterations, to which the internal and external parts of the body are liable: accordingly, Dr. Baillie only designs to represent "the principal morbid changes of structure affecting the most important parts, which are capable of being illustrated, or of being more distinctly impressed upon the mind, by figures. These will comprehend a large proportion of the chief diseased appearances of the thoracic and abdominal viscera, of the organs of generation in both sexes, and of the brain."

The order of the engravings intended to be published will correspond very much, says Dr. B. with the description of diseased changes of structure in his book upon morbid anatomy; but the two works will be made so independent of each other, that a person who possesses one of them will not be obliged to purchase the other. It is conjectured that this work may probably be comprehended in ten fasciculi, each of which will contain about five or six plates; and two fasciculi are intended to be published annually, if the undertaking be generally approved. The next fasciculus will comprise the chief diseases of the lungs.

We are informed, that "the engravings will be principally taken from preparations in Dr. Hunter's and Mr. Hunter's museum, and also from preparations in a collection of

the author, which has now become extensive;" and it is hoped, for the advantage of the public, that various medical gentlemen who may be in possession of materials of this kind, suited for the clear illustration of any particular disease, will permit Dr. Baillie to enrich his work by engravings of them.

We cannot refrain from felicitating our brethren on the prospect of so desirable an undertaking; and, in our judgment, there is no room to question whether the present specimen will be much esteemed. It contains six plates, exhibiting several diseased appearances of the heart and aorta, very neatly engraved, and accompanied by suitable descriptions: the letter-press is executed in a superior style, and the paper has been hot-pressed, to improve its general elegance. We conceive, however, that *coloured* engravings would add greatly to the usefulness of the work. X.

ART. VIII. *An Account of Indian Serpents, collected on the Coast of Coromandel; containing Descriptions and Drawings of each Species; together with Experiments and Remarks on their several Poisons.* By PATRICK RUSSELL, M. D. F. R. S. Folio. 91 pages. Price 3*l.* 13*s.* 6*d.* NICOL, London.

THE first part of this very splendid and valuable work commences with scientific descriptions of forty-three Serpents belonging to the genera Boa, Coluber, and Anguis, which are illustrated by as many beautifully coloured engravings. Of this number, it appears that seven only were found to be furnished with poisonous organs; of these, three belong to the genus Boa, viz. the Gedi Paragoodoo, the Bungaram Pamah, and the Horotta Pam; and four to the genus Coluber, viz. the Cobra de Capello, or Coluber Naja of Linnæus, the Katuka Rekula Poda, the Bodroo Pam, and one which is not named.

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The remaining part contains several experiments and remarks on the nature of their poisons, and is divided by the author into eight sections.

In the first section four experiments are given on the poison of the Gedi Paragoodoo. A chicken, that was slightly bitten through the skin, soon began to droop, and died about forty minutes after the bite, without any considerable convulsions. Another chicken, which was also slightly bitten, was soon seized with stupor, and at the expiration of half an hour expired, being previously slightly convulsed. The wounded part was not discoloured, but the comb and sides of the mouth became of a dark red, and the beak and some of the toes were livid. A stout large dog was bitten in the groin, the teeth of the reptile having apparently penetrated no deeper than the skin; in ten minutes he "urined," and the wounded thigh was a little drawn up, but he still continued on his legs; in a quarter of an hour he couched and howled, and the motion of his thigh was more impaired; in twenty-five minutes his hind legs were paralytic; he then vomited, became torpid, panted, and at the end of the second hour died, having scarcely suffered any convulsions. The part was examined four hours after death, and was found very little swelled or discoloured. A bitch was bitten also in the groin; in fifty minutes she became disordered; in an hour both legs were become paralytic, she vomited, and convulsions followed until she died, which was one hour and ten minutes from the time she was bitten.

The second section contains an account of the experiments which were made with the poison of the Cobra de Capello. A stout dog was bitten in the inside of the thigh; in a minute or two the thigh was drawn up, which in general is the first symptom of the poison having taken effect; he walked about on three legs near half an hour, then laid himself along, showed great inquietude, and purged once. About this time his head and throat became convulsed in an uncommon

common degree; he made several attempts to rise, but in vain, both his legs being now paralytic. In this state he remained about an hour, and then expired two hours and a half after the bite. We have extracted this case from a variety of others that were made upon dogs and chickens, in which the symptons were nearly alike. Some, however, it is necessary to observe were not in the least affected by the bite of this poisonous reptile, although bitten twice.

The third section contains the experiments which were made with the poison of the Katuka Rekula Poda. In dogs and chickens the symptoms were nearly the same as those induced by the venom of the Cobra de Capello. A horse, instead of being shot, was, at the request of Dr. Russell, bitten by a Katuka Rekula Poda, on each side of the nose. The bite on the right side was complete, both fangs having visibly acted; on the left side it was much slighter, the snake biting less fiercely. In fifteen minutes the right side of the nose appeared swelled and discoloured, attended with a copious discharge from the nostrils. In twenty-five minutes the swelling of the face and about the throat was increasing rapidly. Grass was offered, but the horse being unable either to chew or to swallow, dropped it despondently from the mouth. In forty minutes the under lip became convulsed, and continued so till night. The eyes and nose run excessively. Through the second hour the animal seemed more and more indisposed; the swelling continued to increase, especially that of the throat and under lip: he still rejected food, but the breathing was not more affected than what appeared to be owing to the stoppage of the nostrils. At night the swellings were still increasing; next morning the horse was found much in the same state, still unable to eat or drink; the swellings, after an emollient fomentation, began to decline in the afternoon: at night they were considerably diminished, and he ate a little; the third day he continued mending, and in two days more was very well.

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In the fourth section are the experiments on the poison of the Bodroo Pam, which is evidently less deleterious and slower in its operation than those of the Cobra de Capello and the Katuka Rekula Poda.

Section the fifth contains the experiments on the artificial insertion of the poison of serpents into the bodies of living animals. In these experiments the poison was inserted in various ways; sometimes with a lancet, scalpel, or needle; at other times by dropping the poison: the part also was varied into which the envenomed substance was put. In the first twenty experiments the operation proved fatal only once; though in most of them some local affection, as swelling and discolorations about the incisions, were produced. In two instances, where the experiments succeeded completely, the poison was inserted into the belly of the pectoral muscles by a hook, whereas in most of the cases, where the poison took no effect, the thigh was the place of insertion, and a lancet or scalpel was the instrument used; nevertheless, it appears that in two other experiments the same mode of operating failed, and in three other instances induced only local symptoms.—This section finishes the experiments on the venom of the several serpents as far as they extended to animals: from a review of the whole of which it sufficiently appears, that the various poisons mentioned are all deleterious, though in different degrees; that the symptoms produced by them in the bodies of various animals are very much alike; that the progress of these symptoms after they commence is nearly in the same order of progression, though in different degrees of rapidity; that a like variation is observed in the commencement of the symptoms; sometimes it is almost instantaneous, in general from three to ten minutes, but very seldom later than half an hour; that when a snake is first caught, its bite infects with more certainty than when kept some time; that when the snake is made to bite several times successively in the same day, the first bite,

other circumstances being equal, is not only more certain of infecting, but in general proves more quickly deleterious; that the poison of these snakes does not invariably kill animals; and, that they sometimes unexpectedly escape from a concourse of perilous symptoms, though in general the danger of death is in proportion to the violence and early appearance of these symptoms; that the period of death varies considerably; that dogs in no instance were killed in so short a time as birds, but the variation with respect to both does not seem strictly correspondent to the size of the animal; and, lastly, that the artificial insertion of poison is less secure of taking effect than the bite of the animal, but the consequent symptoms are exactly the same, and the event, with respect to the smaller animals, not less fatal.

The sixth section contains the experiments which the author made with remedies that are applied against the poison of venomous serpents, and particularly with the Tanjore pill, an Indian remedy sanctioned by unquestionable authority, and there much used with perfect safety and often with success. The composition of these pills is as follows: white arsenic, roots of velli-navi, roots of neri-visham, kernels of nervalam, pepper, quicksilver, of each an equal quantity. The quicksilver is to be rubbed with the juice of the wild cotton, till the globules become invisible. The arsenic being first levigated, and the other ingredients reduced to a powder, are then to be added, and the whole beaten up together, with the juice of the wild cotton, to a consistence fit to be divided into pills of six grains each.

The directions for using the snake pills are: "If a person is bit by a Cobra de Capello, mix one of the pills with a little warm water, and give it to the patient. After waiting a quarter of an hour, should the symptoms of infection increase, give two pills more; should these not sufficiently counteract the poison, another pill must be given an hour after. This is generally found sufficient. The wound

should

should be dilated, and the warm liver of a fowl applied to the part. For the bite of all kinds of vipers, viz. viriyen pamboo, valancy, sidamand-eli, rettamaud-eli, give two pills; and if the poison be not counteracted within half an hour, give two pills more: but if the life of the patient should appear to be in great danger, four pills may be given; an incision should be made on the top of the head, and a pill pulverized should be first rubbed on the wound, and the liver of a fowl applied to the part. For the bite of all other less poisonous snakes, one pill every morning for three days is sufficient. The patient ought to keep a regimen for six days, eating only congee (rice-water) and rice, or milk and rice. He should abstain from salt, and his drink may be warm water. Sleep is to be prevented for the first twenty-four hours."

From the experiments which were made with the unknown ingredients it appears, that the velli-navi only was deleterious, it killing chickens in the dose of five grains in little more than an hour, and producing vomiting and much uneasiness in dogs when half a drachm was administered. The result of the trials made with the pills of the author's preparing on sound dogs and chickens was, that two given on a fasting stomach generally produced vomiting and purging, though not violent, nor attended with symptoms of much disorder, and the dog was very well after six or eight hours. A dose of four pills produced more evident inquietude, with repeated vomitings, and more violent purging; but, in twelve hours, the appetite for food returned. In chickens well grown one pill produced repeated purgings, and in two or three hours convulsions and death. Half a pill likewise proved fatal, but more slowly. Chickens survived a dose of a fourth of a pill. No opportunity occurred to the author of trying the Tanjore medicine on the human subject in cases of bites of serpents, but he had at different times given it to fourteen persons bitten by mad dogs; with what

what success we are not informed, the author only stating that it generally operated upwards twice or thrice, and downwards three, four, or five times; although the retchings neither were violent, nor were the stools remarkably griping. F.

(To be concluded in our next Number.)

ART. IX. *Transactions of the Linnean Society.* Vol. IV. 1798. WHITE, London. Price 1*l.* 5*s.* Quarto, pp. 304, with 22 plates.

THE Linnean Society continue with the most laudable industry to prosecute their inquiries into the various branches of natural history. The present volume of their communications, though it does not contain much that is immediately connected with medicine, is nevertheless rich in useful and agreeable information. Mr. Hatchard's Observations on Bituminous Substances, and Mr. Marsham's and Mr. Kirby's Observations on the Wheat Insect, and its Ichneumon, will doubtless be highly acceptable to many readers. The only paper, however, of which it appears proper for us to give a particular account, is the *eighth*, containing

An Essay on the Tracheæ, or Wind-pipes of various Birds. By JOHN LATHAM, M. D. F. R. S. and L. S. Romsey.

This essay contains a valuable addition to our knowledge in comparative anatomy. The subject is introduced by the following observations:

"In most birds the natural shape of the trachea, aspera arteria, or wind-pipe, by all which names this part is known, is that of a regularly uniform cylinder of equal diameter, or nearly so, throughout, from its rise at the root of the tongue to its entrance into the hollow of the thorax, sternum, or breast-bone; where it divides into two branches, called bronchiæ,

bronchiæ, which ramify into air-vessels which compose the two lobes of the lungs. This is the general mode of construction: but ornithologists pretty far back have noticed Nature's deviation from this usual structure, both in respect to the various curvatures of the wind-pipe itself, as well as the difference of some from others in respect to conformation; but their sentiments were penned in too vague a manner to determine much thereon, not answering the purpose further than to stimulate our future researches. As far as the deviation from a cylindrical shape is concerned, it is observable that the peculiar difference in structure is seen only in the male sex, the female not having the least enlargement, or increased cavity: but to what purpose nature has intended this, is, I believe, at present unknown to us. Some authors have given as their opinion, that the enlargement of the trachea in males, whenever it happens, serves to increase the tone of voice; and that this sex is enabled, by means of it, to cry out more forcibly than those birds which have no such construction of parts—an instance of which is pointed out in the golden-eye duck, the Latin name of which (clangula) has been given to it from this supposed circumstance. Others again have supposed that the peculiarity of structure might be of use in diving; yet no one has authenticated to us that the male is able to stay longer under water than the female. Concerning the want or presence of an enlarged cavity, or labyrinth, as authors have called it, nothing can better suit our purpose than the examples of the scoter and velvet duck, the latter of which has not only an enlargement of cavity at the bottom part, but likewise a large hollow in the middle, added to a third enlargement of hollow bone just below the larynx; but in the first-named not the least deviation from an uniformly cylindrical shape is seen throughout the whole of its length, in either sex:—yet, wonderful to say, the scoter has by far the greater facility of the two in respect to diving and staying under the water, and on account of this

property of diving becomes one of the most difficult birds to kill in its own element, as twenty shots have been made at one of these, by a good marksman, before one has taken effect. We cannot do amiss also to remind the reader, that none of the genus of colymbus, podiceps, or uria, which have acquired the name of divers from being so often under water, do enjoy any material construction of the trachea different from the cock and hen, which are well known to avoid the water from instinct. Neither can I learn that any thing occurs to outward appearance, that should enable the corvorant, shag, and many others, to dive with such facility as they are known to do. The wild swan, in which we observe a great elongation added to a peculiar curvature of the wind-pipe, is able to hold its head for a length of time under water in search of food; but we have no authority for saying whether it can do so a longer time than the tame swan, in which no such peculiarity is seen. Besides, the common crane, and others of the ardea genus, which have not in their power even to swim, are endowed with a much greater elongation and curvature of the wind-pipe than the wild swan. In respect to what assistance such a construction of parts as abovesaid may afford to the tone of voice, I will not venture here to affirm; yet it cannot be denied that some birds are able to utter very loud sounds without such aid—witness the cock, peacock, and others*. We see Nature's operations and admire them in course, yet cannot

* "How far the discovery of the dispersion of air-vessels, which are found among the fleshy parts of birds, pervading more or less even the *bones* themselves, and communicating with the lungs, may contribute to their being able to dive and stay so long under water, or whether this circumstance may assist in voice, song, or flight, is not for us here to determine. The matter is certainly worth further inquiry, but cannot make any part of this essay, further than to recommend the perusal of a Treatise on the subject by our late friend Mr. John Hunter, in the Philosophical Transactions.—See vol. lxiv. p. 205."

always

always comprehend the utility of her works; and this seems one of her designs concerning which we are not at all clear. It, too, must be confessed, that the whole we have been able to obtain by our scrutiny into this subject is, the security of a mark of distinction, in respect to several species concerning which we have been more or less in a state of uncertainty.

"I am aware likewise that anatomists have done much in regard to the discovery of sex, by observing the testicles of the male, which consist of two whitish glandular bodies placed just below the lungs, close to the back-bone, and the ovaries, or clusters of eggs, situated in the same place in the female. It is true that the sex may, by attending to the above circumstances, be most times got at the knowledge of; but we cannot thereby discriminate the species. And it is also more disappointing, that, at some seasons of the year, in particular subjects, these internal marks are so nearly obliterated as to deceive a very good comparative anatomist, and much less likely to be ascertained by any one who may be but slightly versed in such matters. But the particular circumstance of the trachea never alters; except in being more or less complete in its period of ossification during the life of the bird. I ought not, however, to omit, that in a very careful comparison many traits of difference between one species and another may be detected by the skilful anatomist (although such may not have either labyrinth, or any enlargement of the trachea, to distinguish them by), arising from the structure of the rings themselves, aided by the muscles appropriated to their motion; and it may be with confidence asserted, that one mean at least, if not the principal, of producing a loud noise, and on the contrary, may arise from the peculiar construction of these tracheal rings, which in many birds are found to be more or less complete in themselves; some of them wanting even a large portion of the circle, whilst others are not only per-

fect, but of a strong and elastic ligamentous nature, and some few so greatly indurated as to approach almost to the texture of bone*.—Added to which is the great difference of muscular appendages; for, in the birds which have a weak voice, the muscles are so likewise: on the contrary, very strong muscles are observable in those whose cry is loud, by which structure the rings, the strength of which is ever proportional, are put into violent action, and the bird thereby enabled to throw out the air with great force†. It is certain, also, that, in birds which sing, the muscles of the larynx are stoutest in the male, and in the nightingale are stronger in proportion than in any bird of the same size‡.

"The deviations in respect to the wind-pipe from what is generally seen, may be divided into two kinds.—The first, wherein this organ, although of equal diameter or nearly so, differs in being somewhat longer than the neck, and thereby allowing of a double about the middle of it, as in the wood grous—or, being further elongated, forming one or more folds either within the keel-like process of the sternum, which is hollowed out for that purpose, as may be seen in the wild swan, demoiselle, crane, &c.—or, instead of entering the keel, runs more or less over the surface of the breast beneath the skin, as instanced in the marail, barraka, guan, and others, as will be hereafter noticed.

"The second deviation is where the wind-pipe is unequal in diameter, although not elongated, but alters in shape and size, and in some birds very considerably, in its progress to the lungs, more especially just before its divarication into the two bronchiæ, or lung-pipes.

* "As in the peacock, goosanders, smew, and some others."

† "See a curious and elaborate dissertation on this subject in Magazin Encyclopédique, tom. ii. p. 334 et seq."

‡ "Mr. Barrington supposes that the nightingale may be distinctly heard at more than half a mile, if the evening be calm. Phil. Trans. vol. lxiii. p. 279."

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"This last circumstance has been met with hitherto only in the duck* and merganser genera, or at least it is in these only that the labyrinth †, as it has been termed by authors, has been found: and further, that it is the male alone which has this mark of discrimination; for although many birds may be found having the female plumage, in which the labyrinth is equally conspicuous with others possessing that of the other sex, yet I will venture to affirm, that this part differs not from that of an old male, except in respect to the ossification being less complete; and again, that in every specimen with such enlargement of trachea, or labyrinth, the testes, and indubitable mark of the male sex, will ininvariably be found to accompany it."

Dr. Latham then proceeds to describe the tracheæ of twenty-seven birds; but as the descriptions would be very imperfectly understood without the engravings which accompany them, we must refer such of our readers, as wish for further information on the subject, to the essay itself.

P.

ART. X. *De la Gonorrhée bénigne, ou sans Virus vénérien, et des Fleurs blanches.* Par J. L. DOUSSIN-DUBREUIL, M. D. Paris, An VI^e. (1798.) Octavo, pp. 130. *Prix* 1 *liv.* 10*s.* *et* 2 *liv. franc de port.* FUCHS.

AFTER a few preliminary observations, the author opens his subject, by asserting that the benign or simple gonorrhœa of males, is precisely similar to the whites, or fluor albus

* "I will not take upon me to say that other, and perhaps various kinds of, conformations of the trachea in the duck genus may not hereafter be noticed; as we have good authority in respect to one species, where the wind-pipe runs on the surface of the breast, in the manner of the guan. See No. vi."

† "Ampulla seu Labyrinthus, Raii Syn. Av. p. 135. Will. Orn. p. 253, et alibi. Labyrinth, Will. Orn. (ed. Ang.), p. 335. Ray's Letters, p. 163."

albus in females; but hitherto, he observes, no person has clearly developed the nature and cause of this disease. The benign gonorrhœa has formerly been defined "a flow of semen and of lymph without erection and without pleasure." Dr. D. seriously endeavours to confute this opinion; although, in the present state of medical theory, we should have judged it entirely superfluous to enter into such a discussion: for none, but the most ignorant men in the profession, would now maintain the notion of gonorrhœa benigna, or leucorrhœa, consisting in a seminal discharge. How far this writer has improved upon the sentiment which he explodes, our readers will determine: "I dare affirm," says he, "that neither semen nor lymph, properly speaking, constitutes the matter of a benign gonorrhœa; and that this discharge ought only to be attributed to the insensible transpiration fallen upon the organs of generation, either by the weakness of these parts, or by the stimulating action of an heterogeneous and malignant matter, or by the contraction of the muscular system, or lastly by the constriction of the pores of the skin, and of the other excretory ducts."

Having admitted that the deposition of the matter of insensible transpiration constitutes the disease in question, the author insists on several causes of debility in the stomach, as productive of gonorrhœa and fluor albus; viz. the free use of cool subacid drinks, crude fruits, farinaceous productions, milk, white beer *(de bière blanche)*, pastry, &c. The sudden transition of persons from a temperate to a cold and moist atmosphere, by closing the emunctories, he says, may repel the transpirable matter upon the genitals. Consistently with the same doctrine, he supposes, that depressing passions of the mind will also occasion this disorder; and a whole chapter is occupied in proving that the detestable practice of masturbation is followed very frequently by similar consequences.

The author, with good cause, reprehends Monsieur Fabre for

for administering mercury in the simple gonorrhœa and leucorrhœa: but he does not argue conclusively, in desiring "that mercury should be banished from the circle of antivenereals," because its partisans are not *exactly* agreed on the occasions of employing it. He likewise urges the ignorance of practitioners, in regard to the modus agendi of mercury, and the nature of the venereal poison, as an additional reason for laying it aside in the lues venerea; not considering that, by the same species of argument, we might reject the most valuable remedies in the materia medica.

We perfectly coincide in opinion with the author, that much mischief has arisen from the misapplication of mercury, and especially from the indiscriminate use of it in recent complaints of the genitals; but this circumstance only demonstrates the necessity there is for acting with greater caution and skill in the treatment of these local affections.

The remaining part of this volume treats on the seat of the gonorrhœa, or fluor albus,—the temperament and age of the persons who are most subject to it,—the spurious venereal symptoms which follow upon its suppression,—the train of diseases occasioned by repellents,—and the various means of cure. But the account we have already given of this work, will probably satisfy the curiosity of our intelligent readers: for we neither find clearness of style, methodical arrangement, luminous theories, nor appropriate modes of practice, in the subsequent chapters; and the whole production abounds in typographical errors. W.

ART. XI. *Allgemeines Journal der Chemie, herausgegeben von* D. ALEXANDER-NICHOLAUS SCHERER, herzogl. Sachen-Weimar. Bergrath: *i. e.* A universal Journal of Chemistry, published by D. ALEXANDER-NICHOLAS SCHERER, Counsellor of the Mines of the Duke of Saxe-Weimar.

Weimar. N° I. of Vol. I. Leipzig, BREITKOPTF and HÆRTEL. 1798. Octavo, 120 pages and two plates.

THIS useful periodical publication is conducted upon the plan of the German journal of Mr. Crell, called the Annals of Chemistry. Twelve numbers are to be published annually.

The present number contains Inquiries into the causes of heat occasioned by friction, by Count Rumford: An essay on the nature of the calculus of the urinary bladder, by Dr. G. Pearson, with additions by the author: The description of an economical laboratory, by C. Guyton-Morveau, with plates: A list of the new works which have appeared on chemistry: and, Literary news, relative to this branch of science. G.

ART. XII. *A Pocket Conspectus of the London and Edinburgh Pharmacopœias: wherein the Virtues, Uses, and Doses, of the several Articles and Preparations contained in those Works, are concisely stated; their Pronunciation, as to Quantity, is distinctly marked; and a Variety of other Particulars respecting them given; calculated more especially for the Use of junior Practitioners.* By ROBERT GRAVES, M. D. Member of the Royal College of Physicians, London; of the Royal Medical Society of Edinburgh; of the Medical Society of London, &c. Second Edition, corrected and improved. MURRAY and HIGHLEY, London. 1799. Duodecimo, pp. 116. Price 3*s*.

THE objects of this publication are sufficiently specified in the title-page; and it appears to be very well adapted to answer the intention of its author. Works of such a nature do not admit of an analysis, nor will it be necessary for us to exhibit their contents in detail. Z.

ART. XIII. *Ueber die Erziehung und Behandlung der Kinder in den ersten Lebensjaren. Ein Handbuch für Mütter denen die Gesundheit ihrer Kinder am Herzen liegt.* On the Education and Treatment of Children during the first Years of Life. A Manual for Mothers who have the Health of their Children at heart. By Dr. C. A. STRUVE. 8vo. pp. 286. HAHN, Hanover.

THE author of this treatise is distinguished among the writers of *popular* works on medical subjects, for a just idea of the real purpose of this kind of composition; which has been too often mistaken, both by writers and readers, for that of enabling every man to be his own physician; rather than to impart suggestions on the general causes of health and disease, rational hints for a mode of living most conducive to health, and instructions calculated to prevent those errors with which ignorance and prejudice daily obstruct the path of regular practice, or defeat its salutary efforts.

Dr. Struve has published several tables, containing practical rules of conduct in the various stages of life and the vicissitudes of health, which we shall notice hereafter. The book now under consideration is intended by the author as a commentary on his tables for the use of nurseries, in which he has succinctly pointed out the best means of preserving the health of children, and of administering relief in their diseases. After having shown, that nurseries are too frequently the abodes of disease and wretchedness, and that the great mortality of infants is rather the fault of education than that of nature, he lays down general precepts, pointing out all the advantages to be obtained, and the evils to be avoided, in the management of children.

His next instructions concern the duties of women during the state of pregnancy. In this section he combats

all the prejudices which injure man before his birth, and dwells particularly upon the evils attending the usual dress of the female sex. It is indeed distressing to the philanthropic observer to see, at a period when genuine taste has triumphed over barbarous fashions calculated only to distort the female shape, that the graces of the Grecian waist should have been adopted merely to fascinate the eye, whilst murderous stays remain concealed, to obstruct the functions of the chest; and ligatures of tape, holding up the whole weight of a voluminous under-dress beneath the classic drapery, by a pinching pressure on the abdominal muscles, render gestation painful, oppose the benevolent designs of Nature, and convert the noble shape of woman into that of the wasp. Among other improvements in this respect, the author suggests that of suspending the under-parts of the dress from the shoulders by slings; which in fact would obviate, in a great measure, the evil effects attending the present mode of dressing. He recommends moderate exercise, and reprobates unnecessary bleeding.

In regard to the treatment of new-born children, he insists particularly upon the means to be employed for the re-animation of those who are apparently still-born; and adverts to an improper mode of tying the umbilical cord, which is often, he suggests, the cause of herniæ: he also takes a view of the superstitious prejudices common to nurses and midwives, some of which we believe are peculiar to Germany.

He next describes the construction, furniture, and management of nurseries, as they ought to be, and then proceeds to treat of the food of children: his directions on this head are varied according to different circumstances, rendering deviations from the natural mode more or less urgent. Among the best means for removing those difficulties, which may prevent mothers from suckling their children, he mentions an apparatus (called the *wendelstædtian*),

stædtian), by which that important function may be accomplished, although the nipples should be very deficient in their formation. We regret his not having described so useful an invention.

Concerning the diet of wet-nurses he says, p. 91, "The following drink cannot be too much recommended to weak mothers, who wish to persevere in suckling their children without injury to their own health: let two parts of milk rise over a gentle fire; and add one part of well-fermented beer, previously boiled. This beverage is to be taken cold. I know that it has been used with the greatest advantage by women of a weak constitution, who were already so exhausted, that they thought it impossible to continue suckling their children; they became replenished in a short time, and recovered their strength, with a continued increase of milk."

After these directions, our author proceeds to give useful cautions to be observed in choosing wet-nurses; and he relates instances of disease and misery brought upon whole families by an unsuccessful choice. In this place he quotes a remarkable observation from an Italian author (Baldini), who knew a girl, seven years old, to whom an irresistible propensity for drinking spirits had been instilled by a wet-nurse who was addicted to that vice.

In his instructions relative to the diet of children, he particularly recommends milk; but says, p. 98, "It seems, however, that milk does not agree with some children after they have been weaned; in which case I would recommend the food proposed by Hildebrand, a soup made of beer and yolks of eggs. The beer must be good, and of a vinous taste; for bitter beer, when boiled, is very unpalatable. The yolk of egg is to be mixed with it carefully, so as to avoid its being curdled. The best mode is to mix the yolk with a small quantity of the beer while it is boiling, and to add it to the remainder of the beer when that is cooled."

He recommends the milk, intended for children, to be

taken from the same individual animal: "For the milk of every cow," says Dr. Struve, "is a different mixture." As the best drink for children, he recommends sweet whey, prepared according to the prescription of HUFELAND, by means of small slips of a dried calf's stomach, put into a quantity of milk exposed to a gentle heat: this drink, however, must not be suffered to grow sour. He insists strongly upon simplicity in the food of children; and justly ascribes the most pernicious effects to that variety of alimentary substances, and artificial food, by which their wants are unnaturally increased.

In the next section, concerning sleep, he shows the disadvantages arising from feather-beds; and from soporific medicines, when injudiciously given to infants.

The fourth section treats on the dress of children:—the fifth, of exercise: and rational parents will find, in both, salutary instruction, directing their attention more to nature than to art.

The sixth section explains, in a very satisfactory manner, the nature and effects of salubrious and unwholesome air, and its different temperatures.

The object of the seventh section is to inculcate the necessity, and to demonstrate the benefits, of cleanliness in the management of children, where the various modes of bathing are attentively considered, and the pernicious effects of excess in that respect are pointed out; especially those of too early bathing children in cold water.

The eighth section takes a comprehensive view of the application of the powers of children to work and studies, of their passions, desires, and appetites: the results of these are of great utility, but more connected with a moral, than a physical education.

An appendix is subjoined, consisting of two parts: the first, on the periods of developement in children, and especially that of dentition; the second part considers the

amuse-

amusements of children, with regard to their effects upon health. In the former, parents receive useful instructions for their conduct during a period in which the lives of many children are sacrificed to ignorance: Dr. Struve here endeavours to prove, that the symptoms of dentition are not a disease, and that real disorders are too frequently mistaken for these.

The book concludes with a catalogue of those amusements which are conducive to the health of children, and those which are to be considered as dangerous; moderate exercise of the body constitutes the former; overstraining of the intellectual faculties, the latter: to which is added, an inquiry into the dangers attending the use of many injudiciously contrived play-things; especially those which are painted with poisonous substances, as red lead, &c.

The following are the titles of several tables, in which Dr. Struve has conveyed excellent directions of conduct in emergencies where medical assistance cannot be procured:

1. For the Diminution of the Miseries attending the Small-pox.

2. On the Bite of Mad Dogs, Poisons, swallowing hard Substances, Suffocation, &c.

3. On the Means of preserving the Health of Children.

4. A Table of Instructions for saving the Lives of People who have been drowned, smothered, hanged, &c.

5. A general View of the proper Remedies in all Cases where Life is suddenly endangered.

6. A Table for Midwives; or, general Directions for the Conduct of Mothers, Midwives, Nurses, &c.

7. A Table for the Conduct of Valetudinarians.

Another new and interesting popular work of this philanthropic writer, will be analyzed in our next number. We now proceed to the second general object of our publication.

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *On the Medicinal Virtues of Phosphorus.*

(Read before the Society, by one of its Members, March 8, 1799.)

THE Society having requested me to collect and arrange all the information that was to be obtained concerning the employment and properties of phosphorus as a medicine, I hope it will be seen, by the following essay, that I have endeavoured to comply with their wishes, as far as circumstances and my abilities would permit. I deem it very fortunate that I have been able to go to the fountain-head for every useful fact concerning this powerful and extraordinary drug; since, from these sources, I have been enabled to extract a number of cases, which cannot fail to be interesting, as corroborative proofs of the assertions which have been lately made concerning it, by Prof. LEROI and other French physicians.

The earliest account which I have met with, concerning the internal use of phosphorus, is in the seventh volume of Haller's Collection of Theses, relating to the history and cure of diseases. The original dissertation is entitled, *De Phosphori Loco Medicamenti adsumpti Virtute medica, aliquot Casibus singularibus confirmata,* Auctore J. GABR. MENTZ. There are three cases of singular cures performed by means of phosphorus, narrated in this Thesis; but as the work is in the library of many medical men in this country, I do not deem it necessary to translate those cases fully, but merely to lay before the Society an extract from them. It may be proper to premise, that the history of these cases and cures was sent to Dr. J. Gabr. Mentz, by his father.

The first history, is of a man who laboured under a putrid fever; for whom the best alexipharmic medicines, as they are called, together with a proper regimen, were prescribed.

A diar-

A diarrhœa, however, ensued, accompanied with great anxiety about the præcordia, delirium, and general prostration of the powers of life: proper remedies were tried to stop the diarrhœa and check the disease, but in vain. For three days the patient had been insensible and exhausted. In this extremity the physician had recourse to phosphorus; two grains of which were exhibited, together with a sufficient quantity of theraic to make them into a bolus. This occasioned a gentle sweat and general quiet. The dose was twice repeated in the evening, and again towards morning, with the addition of another grain. The sweat became copious, and the memory and the use of the external senses were restored. The patient, thus revived, was afterwards completely re-established by other remedies.

The second case, is that of a man who laboured under a bilious fever. Although various remedies appear to have been judiciously employed, yet the disease gained ground, until at last the patient was almost quite exhausted. Three grains of phosphorus were exhibited at eleven o'clock in the forenoon, which produced a little quiet; but the patient became so thirsty, that he could not refrain from drinking. After this he was quiet for two hours, and a profuse sweat broke out all over his body. The physician seeing this, ordered him another dose in the evening. He slept and perspired the whole evening, and by means of proper remedies was afterwards completely cured.

The third case is entitled, A Malignant catarrhal Fever with Petechia. It seems to have been the common Typhus Putrida of Cullen, accompanied with cough and catarrhal symptoms in the beginning. We are informed, that on the third day of the disease the patient was deprived of the use of his external senses, that he became delirious, and exceedingly exhausted. Two grains of phosphorus were given to him at two o'clock, and two more in the evening, which restored him to his senses, and occasioned a copious sweat.

Proper

Proper remedies were afterwards employed, which accomplished his recovery.

Dr. MENTZ appears to have been one of the first practitioners who tried this heroic remedy internally. Dr. Morgenstern (See *Schulzii Prælect. in Dispensat. Brandenb. Ed.* 2, *Berol.* 1753), and Dr. Hatman (See *Dissertatio sistens Spicileg. ad Phosphor. Urin. Usum intern. pertin.)*, seem both to have afterwards employed it.

The following twelve cases, relating to this interesting subject, are translated from a thesis, which I believe to be very little known in this country. It is the Inaugural Dissertation of one Dr. Wolff, who graduated at Göttingen in the year 1791; and who states that the cases are extracted from the private diary of his father, a physician of eminence in Poland, who practised physic with great success and reputation for upwards of thirty years.

Case 1. "In the month of August 1763, I was called to a woman, twenty-five years old, whom I found in a state of low delirium. Her pulse was small, weak, and tremulous, almost vanishing as it were under the finger. Her whole chest and arms were disfigured with livid spots. Her neighbours and attendants informed me, that she had been seized with a fever about eleven days before I saw her, and that she had been attended by some ignorant practitioner; who, finding that his remedies did not succeed, had deserted her the day before, declaring that GOD alone could cure her.

"The case appeared to me one of those desperate states of disease, in which a practitioner either ought to refrain from doing any thing, or to make trial of some new, bold, and powerful remedy, which might act as an uncommon stimulus to the nerves, and rouse their suppressed energy. Such a remedy I expected to find in phosphorus; and accordingly I ordered my patient five drops of its solution, in æther, which contained three grains of the phosphorus. They were exhibited in a spoonful of Rhenish wine, and

the

the patient swallowed a few cupfuls of an infusion of the *flores tiliæ* after them. I visited the patient three hours afterwards, and not finding any change, I repeated the dose. Two hours were scarcely elapsed, when the pulse began to rise, and the whole body to be diffused with an equal heat; immediately afterwards the pulse became undulatory, a breathing sweat *(sudor halituosus)* broke out, and at the same time the delirium subsided.

"I exhibited a third dose at the end of sixteen hours: a number of red spots then appeared on the skin, and the patient complained much of a sense of oppression and pain at the præcordia, and in the abdomen. These symptoms I endeavoured to allay by diluents and frequent emollient glysters, which brought away a great quantity of foul fœces. The Peruvian bark completed the cure."

Case 2. "A young woman, twenty-two years old, was, for the first time, delivered of a healthy child. She recovered perfectly well for the first nine days, but being then greatly frightened by some sudden noise in the house, she was seized with a chilly fit, afterwards with flushes of heat, and soon became delirious. I was called to her on the third day, after various remedies had been tried in vain by another physician. Finding that she had a hard pulse, with great oppression in her chest, and a foul tongue, I ordered her to be blooded, to take a solution of Glauber's salts, and to receive some antiphlogistic and emollient glysters. The other physician strongly opposed this advice, contending strenuously for his heating diaphoretic plan; and I therefore returned home. He continued to administer his alexipharmics and cardiac remedies to the unhappy patient. Three days elapsed before I heard any thing of her; but some of her friends then waited on me, entreating me with great earnestness to visit her, as her physician had deserted her, declaring that it was impossible for any one to save her.

"I found

"I found her with a tremulous intermitting pulse, cold extremities, and wandering in her intellects. Of the solution of phosphorus I immediately gave her five drops, in a little Rhenish wine; and in about two hours after, an equal degree of heat diffused itself over her body, and her senses returned. Upon repeating the dose, a sweat broke out, which relieved her so much, that I afterwards could proceed with the proper remedies for the further cure of the complaint."

Case 3. "A young man, twenty-two years old, was seized with a *putrido-gastric* fever, which was accompanied with a white miliary eruption. On the seventh day of the disease, while under the influence of a profuse sweat, he was taken from his bed, at his own desire, and had his linen changed. An hour had scarcely elapsed, when he was seized with great anxiety, the miliary eruption almost totally disappeared, and he began to grow delirious. Being called to him, I gave him the solution of phosphorus, with an infusion of elder-flowers and Rhenish wine. In about an hour afterwards the sweat and eruption returned, and he was snatched from the jaws of death."

Case 4. "A youth, sixteen years old, was seized with a putrid fever, on the seventh day of which he was affected with diarrhœa, of so severe a kind, that he had forty-eight stools in the course of a day. Being sent for the day after, I found him with an hippocratic countenance and subsultus tendinum. Having exhibited the phosphorus twice to him, a general breathing sweat broke out, and the diarrhœa subsided. Afterwards proper remedies were exhibited, and he was restored to health in fifteen days."

Seven Cases. "During the years 1770 and 1771, while the war was carried on upon the borders of our remotest provinces between the Turks and Russians, a putrid fever took its rise in the camps, and spread itself to us. It was then that I ordered this

this divine remedy with the happiest effect to seven sick who laboured under the fever, some of whom had eruptions, with great prostration of strength."

Case 12. "A young lady of quality, twenty-five years old, endowed with such an exquisite degree of nervous sensibility, that she used frequently to be affected with spasms and convulsive motions without any apparent cause, became pregnant in the year 1774, which was the seventh of her marriage. On the third day preceding delivery she was seized with a disease, which might be justly said to be somewhat between catalepsy and coma vigil. She lay stretched out upon her back, her eyes open and fixed, her legs and arms were quite flexible, and remained in any posture in which they were put; her pulse and respiration were entirely natural, and she swallowed whatever fluid was put into her mouth.

"After she had remained three days in this state she was delivered of a dead child, which, from the marks of putrescency on its body, must have died some days before.

"Evacuations carefully employed, antispasmodic and nervous remedies exhibited, both by the mouth and anus, embrocations and liniments, produced such a salutary change, that in fifteen days the patient was able to leave her bed, and the greatest hope was therefore entertained of her complete recovery. But on the twenty-eighth day after delivery, when I went again to visit my patient (who lived at a considerable distance from me), I found her complaining of rigour and chilliness of the inferior extremities, her pulse was frequent and small, and her face was more flushed than usual. Frictions, glysters, the pediluvium, and antispasmodics, were all tried, but without producing any favourable event, and towards the middle of the night she became totally rigid; yet she had complete possession of her mind, although all the external senses, the sight excepted, were abolished. I gave to her three drops of the solution of

phosphorus in a spoonful of wine. Scarcely had an hour elapsed when a warm sweat broke out, and, together with it, a white miliary eruption: afterwards, other remedies were exhibited, which effected her recovery."

Such are the cases related by Dr. Wolff, which I am persuaded will be found sufficiently interesting to awaken and arrest the attention of the practitioners of this country. A medicine of greater powers cannot be named, if the facts which have been related are correctly true. Little doubt can be entertained that many trials will soon be made with it in this country; but it is to be hoped they will be made with caution, and under as favourable circumstances for the reception of such a powerful stimulus as the nature of the diseases in which it is to be given will admit of. The Society ought to solicit, with much earnestness, the communications of learned and skilful practitioners on this subject; and in the mean time, I proceed to enumerate some particulars concerning this subtle remedy, which will serve as a salutary caution against the too free exhibition of it in the time of making experiments. J.

(To be continued in our next Number.)

Art. 2. *On the Application of Pneumatic Chemistry to the Art of Healing, and on the medicinal Properties of oxygenated Substances.* By M. FOURCROY.

(Extracted from N° 84 of the Annales de Chemie.)

BEFORE the author enters more immediately on the new and interesting subject of his *Memoir*, he points out, by way of introduction, the great influence which the discovery of the moderns, concerning elastic fluids, has had on every branch of experimental philosophy. This part, as well as the whole paper, is written with all the eloquence, vivacity, and

and energy, so peculiar to its author; but as it is merely introductory, and occupies sixteen pages, we hope our readers will be satisfied with a few extracts from it: while on the other hand we promise a full and faithful translation of all that follows, deeming it improper to abridge any part of his facts or reasoning.

"It is not any longer permitted," says Fourcroy, "to remain a silent and insensible spectator of the impulse which has been communicated to the science of the animal economy. If the professional man be interested in the progress of his studies; if he be animated, as he ought to be, with a zeal for the advancement of medicine; he cannot neglect to instruct himself in the conclusions of modern discoveries. The cold inactivity of some; the affected indifference of others; the contempt expressed by one person; the irritated self-love, and the languid attachment, of another, for the doctrine of his ancestors; the fear of novelty, and prejudices of every kind; all the mean passions which, gliding into society, and playing their parts in civil life, are also to be met with in the sciences; the sarcasms and epigrams with which they arm conversation; all these may retard for a short time, perhaps for some years, the progress of new ideas: but truth overturns every obstacle. Neither the clamours of envy, nor the resistance of prejudice, nor the opposition of ignorance, can terrify it. It is the rock against which the impotent waves of human passions are broken. When the vivid light of truth strikes those minds that are properly elevated to feel its influence, it soon inspires them with a sufficient degree of force to make them proclaim it with confidence, and to establish its rights on a solid foundation.

"The noisy opposition which was made to the circulation of the blood, the use of antimony, and the employment of blood-letting, has not prevented the discovery of Harvey from taking its place among the number of demonstrable truths;

truths; nor antimony from being acknowledged to be one of the most valuable, heroic medicines, which we have. It will be the same with the new discoveries in chemistry. The road, which has been so gloriously opened, will never be shut again; every thing announces a remarkable amelioration in the progress begun under our eyes, and assisted by our own efforts."

Fourcroy afterwards states, that although he can announce with certainty the hope of a speedy and happy revolution in the art of healing, yet he cannot refrain from exposing to view the dangerous consequences of that petulant activity, which, instead of merely kindling genius, seems to set it on fire; and of that premature love of novelty, which tends to the destruction of every thing, without having any thing good to put in its place. "I am equally averse," continues he, "from the self-sufficiency of the Brownonian doctrine, and the indiscreet explanation of all the phenomena of animal life, upon chemical principles. In one word, I doubtless desire a revolution in the theory of medicine; I invoke it with my vows; I have announced it, for fifteen years past, in my lectures; and have, in some degree, proclaimed it in all my works; I shall give it all the assistance in my power; but I wish for a revolution which shall be slow, wise, and conducted by thought and reflection. I burn none of the ancient works, with Paracelsus; I do not break any pharmaceutical vessels; nor with a single word do I abolish the whole materia medica: I wish to preserve every thing which exists; and I am unwilling to sacrifice all the knowledge of former ages, to the vain apparatus of new speculations, of an hypothesis built on sand. It appears like madness to reject what one is in possession of, to extinguish the light of long experience, to renounce the rational empiricism which governs the practice of physic, merely for the sake of embracing a phantom."

In this kind of strain Fourcroy continues for several pages;

pages; encouraging the timid, the cautious, and thoughtful student, on the one hand; and repressing the premature spirit of novelty, which is common with the self-sufficient, on the other. Paying due homage to the justness of his observations, to the skill with which he has arranged them, and to the eloquence with which he expresses them, we proceed to that part of which we promised a *literal* translation.

"When Bertholet was following the footsteps of Macquer, as to theory, and was beginning at the same time to approach the first discoveries of Scheele; which discoveries he was appointed to confirm, to enlarge, and to apply to pneumatic chemistry; at the time he explained, in 1779 and 1780, the causticity of metallic salts, upon the principle of the avidity with which they deprived animal matter of phlogiston; at the time he was engaged in showing that a watery solution of corrosive sublimate, put in contact with animal flesh, was precipitated in the state of calomel, and the flesh became friable, it was easily to be forseen that the properties which were then attributed to phlogiston, really belonged to oxygen, but in an inverse manner: that is to say, that the corrosive sublimate, instead of taking phlogiston from the flesh, yielded oxygen to that substance; and indeed it was in this way that Bertholet himself, after he had made a formal renunciation, in 1785, of the doctrine of phlogiston as an imaginary principle, which the discoveries of Lavoisier rendered it unnecessary to admit, explained the action of metallic salts as caustics on the organs of animals.

"It was about this period, towards the end of the year 1784, that I began to show in my course of lectures, as a positive fact, what had only been considered until then as a mere hypothesis. I demonstrated by experiments that the metallic caustics (the oxyd of arsenic, the red oxyd of quicksilver, the grey oxyd of silver) really *burned* animal substances; that these substances withdrew oxygen from those

those oxyds, and that, in consequence of this, they returned to their metallic state. Nearly at the same time I explained, in a similar manner, the action of fat which had been heated with metallic oxyds in the preparation of ointments; because it was natural to consider phosphorus and fat, so abundant in animal matters, as substances by which the nature of the alteration that animal matter underwent from the application of metallic caustics could be easily explained.

"I soon extended this idea much farther, and showed my pupils that causticity was nothing else than extreme medicinal power; and, in 1785 and 1786, I began to foretel that the action of many medicines was owing to the oxygen they contained. The study of the properties of this principle, with which I was ardently occupied, caused me to see it acting a part in an immense number of chemical phenomena. Precipitated from the atmospherical air, and uniting with combustible bodies, as an effect of combustion itself, I pointed it out as the principle of taste and of acrimony in burnt bodies. Charcoal, sulphur, and phosphorus, substances in themselves almost insipid, but which became acrid, sharp, and even caustic, upon the addition of oxygen, were offered to the students as proofs of this doctrine; the example also of arsenic, copper, quicksilver, and antimony, which have only a very weak action upon animals, while these substances are in their metallic state, but become stimulants, purges, emetics, and even caustics, according to the quantity of oxygen united with them, by means of the various pharmaceutical processes to which they are subjected, were also adduced to prove the same thing.

"Thus I proceeded gradually, from experiment to experiment, from meditation to meditation, to consider the purgative, emetic, stimulant, and resolving quality of medicines, as the first degrees or progressive steps of a medical scale; of which *inertia* or want of action was the *minimum*,

and that causticity which destroys animal organization, the *maximum*.

"The objections which I started against my opinion, so far from stopping the course of my reasoning in this succession of ideas, only accelerated it by the promptitude and assurance of the answers with which the facts in chemistry supplied me. Water, which of all oxygenated bodies is the most oxygenated, since it contains 0.85 parts, has only a weak medicinal action; because the principle which fixes and saturates the oxygen, the 0.15 parts hydrogene, retains it with too much force to part with it easily to animal matter. If this were not the case, Nature, instead of having given to man and animals a present to quench their thirst and support life, would have given them in water an inflammatory and destructive liquor, more powerful in disorganizing them than the mineral acids.

"What I imagined to be the cause of the medicinal inactivity of water, I have applied as an explanation of all bodies naturally or artificially oxygenated; which only exert a very weak action, or do not exert any action at all, on the organs of living animals.

"Thus, there was gradually developed a second principle concerning the medicinal properties of oxygenated substances, namely, that these substances are medicines, or exert a sensible effect on our body; inasmuch as they contain oxygen, and part more or less readily with it to animal matters with which they come into contact.

"This second thought was not of less utility than the first, in throwing a great light on medicinal action in general; of which it ought always to be remembered, that a slight acrid or disagreeable taste, or, in other words, that the sapidity of aliments is the *minimum*, and causticity the *maximum*. It was this thought which led me to conclude that acid and metallic caustics, such as the nitric acid, the oxyds of gold and silver, and the red oxyd of quicksilver,

were all to be considered as combustible bodies burnt; which not having a great attraction for oxygen, easily yield it to animal matters with which they come into contact. This reflection alone explains how it is that oxyds are active in proportion to their degree of oxygenation; how, for example, the red oxyd of quicksilver, which is caustic, is neither purgative nor alterant until it is reduced to the state of a grey or white oxyd: for it is of importance to establish that chemical principle, which has become so fruitful in the present times, that the attraction of bodies in a state of combination is always in an inverse ratio to their saturation; that is to say, the farther any substances which are in union, are from the point of saturation, the more strongly do they adhere together. Thus, the red oxyd of iron, or a saffron of mars, is more active than the black oxyd, or martial æthiops; because that additional portion of oxygen, which the red oxyd contains more than the black, is less firmly united to the iron than that portion which constitutes the black oxyd. M.

(To be resumed next month.)

Art. 3. *Miscellaneous Intelligence.*

NATURAL HISTORY.

PALISOT BEAUVOIS, associate of the National Institute of Paris, has communicated to that body a memoir on serpents, in which he informs them, that he took with his hand as many as nine rattle-snakes in America, but that they did not show the least inclination to bite; and observes, that they bite only those animals which are necessary for their subsistence. The opinion that these reptiles devour their young he asserts is erroneous; for he had proofs to the contrary, in having seen a female deposit on the ground her young, which she had concealed in her mouth in order to carry them away with her, and thus protect

tect them against the pursuers who had occasioned her flight.

M. Tenon has presented to the class of the physical sciences of the French National Institute a memoir, containing a comparison of the methods in which manducation is performed in man, the horse, and the elephant.

Professor Pallas, in Neue Nordische Beyträge, informs us that he has for a long time remarked in different kinds of sponges, particularly the *spongia villosa*, and all tough sea sponges, certain remains of irritability, which, in these substances kept so long out of their own element, cannot be considered but as mechanical. If the above sponges be soaked in cold water until they extend to their full magnitude, and hot water be poured over a portion or the whole of them, they instantaneously contract themselves, particularly in the irritated part, with a wonderful velocity and force, as if alive. As soon, however, as the irritation of the heat ceases, they again extend to their former size. This experiment may be repeated with a sponge, until its whole consistence and texture are destroyed by the hot water. An accidental observation, made on a tubular piece of the before-mentioned spongia villosa, first induced the Professor to repeat the same experiment on other kinds of tough sea sponges.

From Mr. Park's Account of his Journey into the interior Parts of Africa, published in the Proceedings of the African Association, 1798, we learn, that the centre of Africa affords a tree which very much resembles the American oak, and the nut has somewhat the appearance of a Spanish olive. The inhabitants prepare from the kernel of this nut, by boiling, the *shea-toulou*, or tree-butter, in great abundance. The kernel is enveloped in a sweet pulp under a thin green rind; and it is Mr. Park's opinion that the butter produced from it, besides the advantage of its keeping without salt the whole year, is whiter, firmer, and

of a richer flavour than the best butter he ever tasted, made from cow's milk. The growth and preparation of this commodity seem to be among the first objects of African industry in this (Kabba) and the neighbouring states; and it constitutes a main article of their inland commerce.

Among the principal productions of the negroe territories is the *Lotus*. It is rather a thorny shrub than a tree, and abounds in all the countries which Mr. Park traversed; but it thrives best in a sandy soil. Its fruit is a small yellow farinaceous berry, about the size of an olive, which being pounded in a wooden vessel, and afterwards dried in the sun, is made into excellent cakes, resembling in colour and flavour the sweetest gingerbread. Some of the natives likewise prepare from it a liquor deliciously sweet.

Of one species of their corn, Mr. Park also informs us they make excellent beer, by malting the seeds nearly in the same manner as barley is malted in England; and the beer which was thus made was to Mr. Park's taste equal to the best strong beer he ever drank in his native country.

M. Crevier, in a long memoir presented to the French National Institute, on the organs of the voice, shews that the greater part of birds, independently of the inferior glottis, which is the principal organ of their voice, have a superior larynx, by which mechanism they are the more enabled to vary their tones, as by its means they can more easily change the state of the glottis, the length of their trachea, and the aperture of their upper larynx. It results from this organization, that the gravest tones, and the harmonics of these tones, are produced by an elongation of the tracheal artery and the greatest relaxation of the glottis; while by a shortening of the trachea, and a contraction of the glottis, the bird produces tones so much higher as the trachea is shorter, and all the harmonics besides which correspond to that degree of contraction.

CHEMISTRY.

CHEMISTRY.

M. FOURCROY and VAUQUELIN having received from Dr. Vean de Launay, physician of Tours, some arthritic concretions, which were taken from a gouty tumour of the finger of a man whose members were much deformed by that complaint, had an opportunity to corroborate the experiments of M. Tenant; who announced that he found, by analysis, that gouty concretions were a combination of lithic acid and soda.

M. CHAPTAL read a memoir to the National Institute, on a new mode of manufacturing verdigrise. This new process, practised at Montpellier for some years past, consists in causing the residue *(mare)* of grapes to ferment, and of putting it in layers, between plates of copper, to develope the metallic oxyd, called verdigrise. This method is superior to the old one, as it is much easier, and attended with less expense, because it requires no wine.

Some experiments of the same chemist likewise prove, that white lead may be made in the same manner.

M. Chaptal also read another memoir on the acetite of copper, or distilled verdigrise. He gave an account of several experiments to oxydate copper with more advantage, and to render it by these means soluble in the acetous acid.

ELECTRICITY.

M. REGNIER, keeper of the magazine of the models and archives of the artillery at Paris, has announced, amongst other inventions, that of an electrical machine with a new conductor, which he represents as being preferable to all others.

VACANCY AT GUY'S HOSPITAL.

Mr. Lucas, of London, having resigned his situation of surgeon to GUY'S HOSPITAL, we understand that Mr. Whit-

Whitfield, Mr. Buckle, Mr. Lucas, jun. Mr. Astley Cooper, and Mr. Howden, are candidates for the vacancy.

SOCIETIES, AND LITERARY NEWS.

The medical, chirurgical, and pharmaceutical Society at BRUSSELS has published the first part of the first volume of its Memoirs; in which is given an account of the history of its foundation and establishment, the list of its members and associates, and the minutes of its proceedings till the 27th of September 1797; with twenty-five original dissertations, which we shall take the earliest opportunity of detailing at large.

The Society of Emulation of ABBEVILLE have announced, amongst others, the following works:

Essai sur la Gangrène, traduit de l'Anglais, par le Citoyen Lerminier.

Observations sur une Hernie crurale avec Etranglement, par le Citoyen Bellot.

Observations sur une nouvelle Méthode de traiter les Maladies vénériennes, par le Citoyen Goret.

Expériences et Observations sur la Tartrite antimonié de Potasse, par le Citoyen Noyelles: And,

Several botanical publications.

M. CASTEL has just published at Paris a small pamphlet, in octavo, 68 pages, entitled, "Analyse critique et impartiale de la Nosographie Philosophique de Ph. Pinel, Médecine de l'Hospital National de Paris." A copy of Dr. Pinel's work, 2 vols. 8vo. is in our possession, and will be reviewed in the next number.

M. LEOPOLD VON BUCH, a distinguished pupil of the celebrated Werner, has published at Breslaw a mineralogical description of Landeck, denominated "Versuch einer Mineralogischen Beschreibung von Landeck." 4to. 55 pages.

M. ALYON of Paris has completed, in two volumes, octavo, 1799, a treatise, entitled "Cours Elementaire de Chymie, théorique

théorique et pratique, suivant la nouvelle Nomenclature; Ouvrage dans lequel on a rassemblé la plupart des Procédés utiles et agréables qui derivent de cette Science." We shall soon have occasion to notice another work of this author; together with some articles of literary intelligence, which we are now obliged to postpone, for want of room.

MEDICINE AND THERAPEUTICS.

M. PELLETIER has ascertained, from experiments which he made upon dogs, that the carbonate of barytes and pure caustic barytic earth are, in the dose of from twelve to eighteen grains, most active poisons.

M. VALLI, after laying down principles well known, viz. that old age comes on naturally, because the calcareous phosphate, or calcareous carbonate, is continually accumulating in the greater part of the solids, such as the bones, the arteries, veins, tendons, &c. says, that this accumulation can be guarded against only two ways; either by preventing that substance from being formed in the mass of the fluids, or by expelling it as soon as it is formed.

1. To prevent too abundant a production of that earth, one must use aliments which contain the least quantity of it, such as vegetables, milk, fish (but fishes contain a great quantity of the phosphoric acid).

2. The means which he thinks most proper for expelling that calcareous earth, or calcareous phosphate, are, bathing, frictions, diuretics, pure water, and beverages cooled with ice. The oxalic acid, given in small doses, he considers as the best remedy. That acid, says he, decomposes the calcareous phosphate: the oxalate of lime, which thence results, will be carried into the torrent of circulation, and will be driven out.

M. VAUQUELIN and BROGNIARD have proved, that the acetic acid dissolves the vegetable gluten and animal fibres. It is well known that there is a disease called by nosologists *malacosteon*, or *mollities ossium*, where the bones become entirely

entirely soft. The calcareous phosphate is almost wholly carried away; and there scarcely remains any thing but the cellular tissue of the bones, with the gelatinous and greasy part, or the marrow. Were it possible to find out the means of dissolving, gradually, in this manner the calcareous phosphate, without depriving the bones of their solidity, and without hurting the other animal functions, these gentlemen think the fountain of youth will be discovered.

M. CHABERT communicated to the French National Institute reflections on a disease among horses, known by the name of immobility, not yet described; and which has a great affinity with that known among the human species, under the name of catalepsy.

An osseous tumour, which arose in the ham of an horse, gave occasion to M. HAZARD to make some reflections on the origin of that disease and the means of curing it.

Among the papers lately read at the ROYAL SOCIETY of London, is one which contains some useful information respecting the plague at Constantinople, and the general mode of communicating it to healthy subjects: the facts there adduced, seem to corroborate the idea that it is transmitted chiefly by contact with infected bodies.

Numerous experiments are at this time making in England to ascertain the nature and advantages of the cow-pox, as a mode of extirpating the small-pox: the result of these trials will be communicated, from time to time, in our succeeding numbers.

Professors FAUST and LENZ, in conjunction with other celebrated persons in Germany, are concerting measures for stopping the ravages of the small-pox, which has proved almost incredibly fatal in that country.

MATERIA MEDICA.

In the sitting of January 2, 1798, of the Electoral Academy of the useful Sciences at Erfort, some remarks

were read by M. ZIGMAN on the cultivation and employment of the monarda (oswego-tea) as a spice. The author found the *monarda fistulosa* and *didyma* LIN. to be plants; the leaves, flowers, and, in particular, the seeds of which might be substituted for many kinds of spiceries. The leaves, beside other uses, may be employed as tea; the flowers improve the taste of brandy, and give it a flavour like that of peaches, &c. The most importrnt part, however, is the seeds.

ACCOUNT OF NEW INSTITUTIONS.

The members of the French National Institute have just founded an establishment at *Cairo*, like that of Paris. They have associated with them some of the men of letters and artists who followed the army; and several artillery-men have also been admitted members. They expect soon to have, among other arrangements, a botanical garden, a public library, a cabinet of instruments, an observatory, a chemical laboratory, &c. M. MONGE has been elected president of this new society; the Commander in Chief, vice-president; and M. FORNIER, the secretary.

Proposals, from the most respectable literary quarters, have lately been made in *London*, for carrying a plan into execution; the object of which is, to teach, by lectures, models, and experiments, the application of natural philosophy, &c. to the mechanical arts. This noble design is encouraged by Sir JOSEPH BANKS, Count RUMFORD, Sir GEORGE STAUNTON, and many other scientific characters of eminence in England.

The National Institute of the *Ligurian Republic*, installed on the 24th of Brumaire, seventh year, consists of sixty members and two classes: the FIRST CLASS, that of mathematical and physical sciences, is divided into three sections; viz. 1. Agriculture, commerce, and manufactures; 2. The

nautical science, mathematics, physics, and natural history; 3. Chemistry, botany, anatomy, medicine, and surgery. The SECOND CLASS, also subdivided into three sections, comprehends philosophy, history, and the fine arts. B. F. V.

Art. 4. *Prize Subjects.*

SOCIETY OF MEDICINE AT PARIS.

THE Society of Medicine at Paris had proposed as the subject of the prize of the three hundred francs, to be adjudged this year, the following question: "What are the advantages and inconveniences of the different methods of treating the aneurism?"

But, as this question was not sufficiently explained, the Society decreed, in its public sitting of Floreal 22 (May 11), that the question should be proposed anew, and the prize adjudged in the public sitting of Floreal 22d, seventh year (1799).

It proposed in the same sitting, as a subject for the prize to be adjudged on the 22d of Brumaire (November 12, 1799), "To determine by accurate experiments, what may be the influence of oxygen in the animal economy, and, above all, in the treatment of diseases, both internal and external?"

In the sitting of Germinal 15 (April 4, 1798), the National Institute of France proposed the following prize:

"To discover by accurate experiments what is the influence of atmospheric air, light, water, and earth, on vegetation?"

The answers will be received till the last day of Frimaire, eighth year (Dec. 20, 1799), and the Institute will proclaim the piece that shall gain the prize, which is a gold medal, of the value of a kilogramme, in its public sitting of Germinal 15 (April 4, 1800).

ACADEMY OF MEDICINE AT BARCELONA.

The Royal Academy of Practical Medicine at Barcelona has proposed the following question as the subject of a prize: "To determine whether cold baths, administered as a preservative or as a remedy to those attacked with disorders of the breast, are useful or prejudicial; and what may be their effects or advantages according to circumstances?" The prize will be a gold medal, value 375 rials; and the memoirs must be transmitted, with the usual formalities, to the secretary of the academy, in the course of the month of October 1799.

THE IMPERIAL ACADEMY.

The directors of the Imperial Academy of the Searchers into Nature, have proposed the following questions as subjects for prizes:

I. "In which of the known parts of vegetable productions, the bark *(cortex)*, inner bark *(liber)*, wood *(alburnum et lignum)*, pith *(medulla)*, does the sap ascend? Does a reflux of the sap towards the root, proportioned to the ascent, take place in the bark or the pith, or in both? And, if this be the case, by what way is it conveyed from the interior parts to the bark? What course does it, in particular, take to pass through the leaves to the bark?"

The Academy wishes, in particular, that the motion of the sap in the bark upwards may be proved or refuted; both by a careful repetition, varying the circumstances, of the experiments which have already been adduced as a proof of it, and by a sufficient number of well-chosen and appropriate new experiments. The best-founded experiments, which prove the ascent of sap in plants, have been enumerated by Duhamel, in *Physique des Arbres*, b. v. chap. 2. art. 7—11. and the most important of them are as follows: 1. If a plant is suffered to imbibe a coloured fluid, it ascends in the vessels between the pith and the bark, penetrates to the

leaves, and then proceeds through the bark a certain space downwards. 2. When a plant or a twig is compressed at the bottom by a ligature, a swelling takes place upwards towards the ligature. 3. When the bark of a tree is taken off, without injuring the interior part, the upper edge of the wound produces a greater quantity of moisture than the lower. 4. Under these circumstances an excrescence is formed on the upper part of the bark, and not on the lower; and the renovation of the inner bark, which has been lost, takes place from the top downwards.

II. "What beneficial use may practical medicine derive from Humboldt's well-known experiments on Galvanism and metallic irritation?"

The Academy expects that the diseases and cases, in which Galvanism may be useful, will be accurately determined by proper experiments; and that the experiments will be clearly and fully described. Experiments, however, on persons apparently dead, are to be omitted.

The Academy requests all answers to these questions, if founded on experiments actually made by the authors, to be legibly written in Latin; to be inscribed with any motto according to pleasure; and to be accompanied with a sealed note, having on it the same motto, containing on the inside, the name, title, and place of residence of the author; and to be transmitted, before the first of October 1799, to the president of the Academy, G. H. R. von Schreber, at Erlangen. The prize for each question is a gold medal, of twenty ducats value, bearing the usual impression, and will be adjudged to the author of the best papers, by the commissioners of the Academy, on the 5th of January 1800.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

The Medical Question for 1798. "What is the cause of intermittent fever, and what are the best means of curing it?"

The Surgical Question for 1798. "What is the proximate cause of inflammation?"

The successful candidate, on both these subjects, was Dr. WARWICK, of Rotherham, Yorkshire.

Medical Question for 1799. "What is the origin of the COW-POX—and in what does it differ from the small-pox—are its effects on the human constitution milder than those of the inoculated small-pox—and is a patient who has been inoculated for the cow-pox, and experienced its constitutional effects, equally secure from the contagion of the small-pox?"

The Physiological Question. "How do the vegetable and mineral poisons act upon the body?—and what are the best means of preventing their deleterious effects?"

Extract from the Society's Laws.

"Two sets of books, value five guineas each set, shall be annually given to the authors of the two best dissertations on some physical subjects." *Chap.* xii. *Rule* 1.

"Ordinary, corresponding, and such honorary as have been ordinary members, and who were not settled in business at the time the questions were proposed, shall alone be candidates for the prizes." *Chap.* xiii. *Rule* 7.

"Dissertations in answer to the questions proposed, must be delivered to the librarian, previous to the first Saturday in December 1799.—A motto shall be prefixed to each dissertation, and with it shall be delivered a sealed packet, with the same motto on the outside, and the author's name on the inside." *Vide Society's Laws.*

In our next number, will be given the prize subjects of other medical societies in London. X.

Art. 5. *Notices of intended Publications.*

DR. BLACKBURNE is nearly ready to publish his Remarks on Heat and Light.

The

The Rev. Mr. PERKINS is said to be preparing a translation of Dr. TODE's work, entitled, "Von dem Perkinismus."

Mr. DONOVAN, author of the British Birds, &c. is about to publish a complete History of British Shells.

Dr. BEDDOES, of Clifton, still continues to labour with commendable zeal in amassing "Contributions to Physical and Medical Knowledge." He will speedily publish a Collection of Philosophical and Medical Tracts. We likewise hope soon to hear of his Eſſay upon the Phthisis Pulmonalis being ready for the press.

Dr. SHAW, of the British Museum, has nearly finished one volume of his much expected System of Natural History, which will probably be extended to ten or twelve volumes.

Dr. GARNETT, of Glasgow, proposes to publish, by subscription, a work, in two quarto volumes, which, although not immediately connected with medicine, will contain various observations on the different branches of natural history.

Dr. THORNTON, of London, has made some progress in his splendid Illustration of the Sexual System of Linnæus; the first number of which will be published in a few weeks. The fourth edition of his Medical Extracts, with great improvements and numerous plates, is also in great forwardness. We have reason to believe Dr. T. is likewiſe undertaking a translation of Harvey's works into English.

Mr. BENJAMIN BELL, of Edinburgh, has nearly finished his manuscript of Consultations and Observations on various Chirurgical Subjects of importance.

Mr. JOHN BELL, of Edinburgh, is preparing a large work for the press, on Military Surgery.

Mr. CHARLES BELL, of Edinburgh, is continuing his "System of Dissections" with great diligence.

Mr. ANDREW BELL, of Edinburgh, is engaged in the farther prosecution of his Anatomia Britannica; of which the fourth and fifth parts will probably be soon ready for the public.

Mr.

Mr. JOHN THOMSON, surgeon in Edinburgh, is prosecuting his intended translation of M. Fourcroy's Chemistry; which he has enriched with valuable additions, and references to the best sources of information.

Mr. ANDREW FYFE, assistant to Professor Monro, of Edinburgh, is about to publish a splendid work, comprising more than one hundred and fifty anatomical plates, partly original and partly copied from good authors.

Another collection of engravings, by the same industrious gentleman, is likewise in considerable forwardness.

C. FOURCROY, of Paris, is publishing a work on "Medical Chemistry;" and, in conjunction with M. VAUQUELIN, he is likewise preparing a general History of Vegetable Analysis.

M. DEFONTAINES, National Professor of Botany, is continuing his magnificent description and plates of the plants of Barbary, entitled, "Flora Atlantica."

Dr. SCHERER is said to be preparing for the press an History and a Dictionary of Chemistry; also an Inquiry into the Nature and Application of Manures.

Dr. BLOCK, of Berlin, is about to publish a Compendium Ichthyologicum.

Professor SŒMMERING, of Leipsig, is composing a treatise on the Human Organs of Sense, intended to be illustrated with plates.

Professor BARTON, of Philadelphia, is writing a work, to be entitled Strictures on the Arrangement of the Materia Medica adopted by Dr. Darwin.

Dr. JAMES HAMILTON (Physician of the London Dispensary) is preparing for the press a work to be entitled, "Directions to Nurses for the Management of Sick Persons." He also intends soon to publish some Practical Observations, on a Disease which has been frequently mistaken for Phthisis Pulmonalis.

The learned Dr. CORAY is translating one of the most useful parts of Hippocrates's works into the German language; and

and it is expected that Dr. W. WRIGHT will also give an English translation of the same.

Dr. BENJAMIN DE WITT, of Albany, proposes to publish an Account of the principal Medical Waters in the Province of New-York.

Mr. CH. BROWN, of London, is collecting materials for a work, to be entitled, The Annals of Pneumatic Medicine.

A new edition of the Rev. Mr. TOWNSEND's Vade Mecum is reprinting, with considerable improvements.

An History of the Inventions, Theories, and Systems, which have prevailed in Medicine, during the present century, is said to be in the press at GOTHA.

Mr. WILLIAM BLAIR has nearly completed his second Collection of Cases, to illustrate the anti-venereal Effects of Nitrous Acid, &c.

Dr. CARMICHAEL SMITH is on the eve of publishing a new and enlarged edition of his work on the Effects of Nitrous Vapour in deftroying Contagion.

The MEDICAL SOCIETY OF LONDON has just finished another volume of Memoirs, in which will be found several very interesting papers.

A second volume of the Transactions of the Society for the IMPROVEMENT OF MEDICAL AND CHIRURGICAL KNOWLEDGE is in some degree of forwardness.

Dr. WOODVILLE is printing a work on the Cow-pox, which is expected to throw much light upon this curious subject.

Dr. HOOPER is preparing a publication for the press, entitled, "The Elements of Surgery."

Mr. J. PEARSON has announced his design of publishing Observations on several Remedies employed in the Lues Venerea.

Professor GEHLER's copious Physical Dictionary is undergoing an abridgment, in two 8vo. volumes, at Leipsig.

Proposals have been made by Mr. ACCUM, to publish by subscription

subscription, a work to be entitled Chemico-Physical Aphorisms; which will comprehend a general view of the discoveries and phenomena of chemistry and natural philosophy.

Dr. E. G. Clarke is just publishing his Compendium of the Practice of Medicine.

Mr. Webster's History of Pestilential Diseases, and especially those of America, is now printing at New-York.

An additional volume of Dr. Trotter's *Medicina Nautica* is about to be published, and will be found to contain much information on the means of destroying contagion.

The concluding volume of Professor Sprengel's excellent History of Medicine, in the German language, will speedily make its appearance. Dr. Duncan, Jun. is engaged in translating the former part of this work into English.

Mr. James Parkinson, of Hoxton Square, is on the point of publishing "Medical Admonitions to Families," intended to show the numerous evils which result from the practice of domestic medicine.

Dr. Underwood's Chirurgical Tracts, and his Treatise on the Diseases of Children, are reprinting with improvements and considerable additions.

Proposals have been circulated in London, for printing an English translation of Dr. Girtanner's Treatise on the Lues Venerea. Messrs. Murray and Highley, of Fleet Street, and Mr. Cuthell, of Middle-row, Holborn, receive the names of gentlemen who will become purchasers.

Mr. Lucas, of Leeds, is preparing a work for the press, which will be interesting to gentlemen in every branch of the medical profession.

Dr. Willan is ready to print the second part of his valuable work on Cutaneous Diseases.

Dr. George Fordyce is printing the *second* part of his third Dissertation on Fever.

Dr. Baillie is proceeding to illustrate the Morbid Anatomy by accurate engravings. W. Z. T.

Art. 6. *Current Price of Drugs in the London Market.*

		£.	s.	d.		£.	s.	d.	
ALMONDS, bitter	from	3	12	6	to	0	0	0	cwt.
——— sweet	—	5	0	0	—	0	0	0	—
——— Jourdan, new	—	12	12	0	—	13	0	0	—
——— Valentia, best	—	7	0	0	—	7	10	0	—
Aloes, Barbadoes	—	20	0	0	—	0	0	0	—
—— Cape	—	5	15	0	—	0	0	0	—
—— Socotorine	—	18	0	0	—	20	0	0	—
—— hepatic	—	14	0	0	—	16	0	0	—
Alum, English	—	25	0	0	—	26	0	0	ton.
—— roach	—	1	14	0	—	1	18	0	cwt.
Ammoniacum, in drop	—	22	0	0	—	0	0	0	—
——— lump	—	10	0	0	—	14	0	0	—
Angelica root	—	4	10	0	—	4	15	0	—
Antimony, crude	—	2	2	0	—	0	0	0	—
Aqua fortis	L. fingle	0	0	8	dou.	0	1	0	lb.
Arsenic, yellow	from	2	14	0	to	2	16	0	cwt.
——— white	—	2	4	0	—	0	0	0	—
Assafœtida	—	6	0	0	—	15	0	0	—
Balsamum Copaivæ	—	0	8	0	—	0	0	0	lb.
——— Peruvianum	—	0	8	6	—	0	9	6	—
——— Tolutanum	—	0	3	6	—	0	3	9	—
Barilla, Spanish	—	2	11	0	—	2	14	0	cwt.
——— Teneriffe	—	2	2	0	—	2	4	0	—
Bark, common Peruvian	—	0	3	0	—	0	0	0	lb.
—— red	—	0	2	0	—	0	3	6	—
—— second	—	0	5	0	—	0	0	0	—
—— quill	—	0	7	0	—	0	8	6	—
Barley, English pearl	—	1	0	0	—	1	1	0	cwt.
——— foreign do.	—	1	8	0	—	1	10	0	—
Benzoë gum	—	12	0	0	—	26	0	0	—
Borax, refined, East India	—	12	0	0	—	0	0	0	—
——— English	—	0	2	6	—	0	2	8	lb.
——— unrefined	—	5	15	0	—	6	0	0	cwt.
Brimstone, foreign, rough	—	29	0	0	—	30	0	0	ton.
Camphire, refined	—	1	0	6	—	1	1	0	lb.
Cantharides	—	0	13	6	—	0	14	0	lb.
Carraway seeds, English	—	2	10	0	—	2	12	0	cwt.
——— foreign	—	1	18	0	—	2	0	0	—
Cassia bud	—	24	0	0	—	27	0	0	—
—— fistula, West India	—	2	4	0	—	2	10	0	—
—— ligna	—	19	0	0	—	20	0	0	—
Castor, American	—	0	5	0	—	0	7	4	lb.
——— oil	—	0	4	6	—	0	4	9	btle.
Cinnamon	—	0	9	0	—	0	9	4	lb.
———, bonded	—	0	5	0	—	0	5	1	—
Cloves	—	0	7	0	—	0	7	3	—
——, bonded	—	0	3	10	—	0	4	0	—
Cochineal, East India	—	1	12	0	—	1	13	0	—
——— Spanish	—	0	9	0	—	0	10	6	—
Colocynth, Turkey	—	0	5	0	—	0	6	0	—
Colombo root	H. —	0	17	0	—	0	19	0	—
Coriander seeds	—	0	12	0	—	0	13	6	cwt.
Cream of tartar	—	5	12	6	—	5	15	0	—
Cummin seeds	—	2	0	0	—	2	8	0	—
Fænugreek seeds	—	1	5	0	—	1	6	0	—

Galbanum

		£.	s.	d.		£.	s.	d.	
Galbanum	from	14	0	0	to	16	0	0	cwt.
Galls, best Aleppo	—	8	10	0	—	9	0	0	—
—— mixed	—	7	10	0	—	7	15	0	—
Gamboge	—	20	0	0	—	24	0	0	—
Gentian root	—	3	0	0	—	3	5	0	—
Ginger, Barbadoes	—	4	5	0	—	4	10	0	—
—— East India	—	2	5	0	—	2	12	0	—
—— Jamaica, black	—	2	2	0	—	2	12	0	—
—— white	—	4	5	0	—	5	10	0	—
Ginseng root	—	0	7	6	—	0	0	0	lb.
Guaiacum	—	0	3	6	—	0	4	0	—
Gum Arabic, East India	—	8	0	0	—	14	0	0	cwt.
—— Turkey	—	20	0	0	—	22	0	0	—
—— Senegalenſe, ungarb	—	15	10	0	—	16	0	0	—
Ipecacuanha root	H. —	0	17	0	—	0	17	6	lb.
Isinglass, book	—	0	4	0	—	0	4	6	—
—— leaf	—	0	4	0	—	0	4	6	—
—— long staple	—	0	5	0	—	0	5	2	—
—— short staple	—	0	4	2	—	0	7	0	—
Juniper berries, German	—	1	3	0	—	1	8	0	cwt.
—— Italian	—	1	1	0	—	0	0	0	—
Jalap	—	0	3	9	—	0	0	0	lb.
Lac, shell	—	5	0	0	—	12	0	0	cwt.
—— stick	—	6	0	0	—	6	6	0	—
Liquorice, Italian	—	7	5	0	—	7	10	0	cwt.
—— Spanish	—	6	0	0	—	6	10	0	—
Mace, long	—	1	7	6	—	1	9	0	lb.
—— bonded	—	1	3	0	—	1	4	0	—
Madder, best	—	4	0	0	—	5	0	0	—
Manna in flakes	—	0	3	6	—	0	4	6	lb.
—— in sorts	—	0	1	5	—	0	1	6	—
—— Tolpha	—	0	2	0	—	0	2	6	—
Mastic	—	0	3	6	—	0	4	6	—
Musk, China	—	1	8	0	—	1	12	0	oz.
Mustard, brown	—	0	10	0	—	0	15	0	lb.
—— white	L. —	0	5	0	—	0	15	0	—
Myrrh	—	9	0	0	—	20	0	0	—
Nutmegs, sound	—	1	4	0	—	1	6	0	lb.
—— damaged	—	0	19	0	—	1	1	0	—
Nux vomica	—	7	10	0	—	8	0	0	cwt.
Oil, Lucca	—	14	10	0	—	0	0	0	—
— palm	—	2	8	0	—	2	10	0	cwt.
— Spanish	—	76	0	0	—	78	0	0	ton.
— linseed	—	33	10	0	—	0	0	0	—
Olibanum	—	5	0	0	—	6	0	0	cwt.
Opium, East India	—	0	11	0	—	0	12	0	lb.
—— Turkey	—	0	19	0	—	1	0	0	—
Opoponax	—	40	0	0	—	42	0	0	cwt.
Pepper, short, long	—	10	0	0	—	10	10	0	—
—— white	—	1	7	0	—	0	0	0	lb.
Pimento	—	0	0	9	—	0	0	$9\frac{3}{4}$	—
Quicksilver	—	0	3	9	—	0	3	10	—
Resin, English, black	—	0	12	0	—	0	14	0	cwt.
—— yellow	—	0	14	0	—	0	15	0	—
—— foreign, black	—	0	8	0	—	0	8	6	—
—— yellow	—	0	12	0	—	0	0	0	—
Rhubarb, East India	—	0	7	0	—	0	11	0	lb.
—— Russia	—	0	17	0	—	0	18	0	—

Saffron

			£.	s.	d.		£.	s.	d.	
Saffron, Spanish	H.	from	1	19	0	to	0	0	0	lb.
——— French	—	—	1	11	0	—	1	12	0	—
Sago	—	—	5	0	0	—	5	5	0	cwt.
Sal ammoniac	—	—	8	0	0	—	8	8	0	—
Salop	—	—	14	14	0	—	0	0	0	—
Sarsaparilla	—	—	0	3	0	—	0	3	3	lb.
Sassafras	—	—	2	0	0	—	2	2	6	cwt.
Scammony, Aleppo	—	—	1	4	0	—	1	6	0	lb.
——— Smyrna	—	—	0	11	0	—	0	12	0	—
Senna	—	—	0	4	3	—	0	5	3	—
Snake root	—	—	0	7	0	—	0	8	6	—
Soap, Castile	—	H.	6	0	0	—	6	6	0	cwt.
Spermaceti	—	—	0	1	9	—	0	2	0	lb.
Tamarinds, West India	—	—	3	10	0	—	3	15	0	cwt.
Tapioca, Lisbon	—	—	0	1	4	—	0	0	0	lb.
Turmeric, Bengal	—	—	4	10	0	—	4	15	0	cwt.
——— China	—	—	5	0	0	—	6	0	0	—
Turpentine, American	—	—	0	17	0	—	0	18	0	lb.
Verdigrise, wet	—	—	0	2	6	—	0	3	0	—
——— dry	—	—	0	3	0	—	0	3	6	—
Vermillion, town-made	—	—	0	4	10	—	0	5	2	—
Vitriol, oil of	—	—	0	0	5	—	0	0	$5\frac{1}{2}$	—
——— Roman	—	—	3	10	0	—	3	15	0	cwt.
Wax, bees, English	—	—	9	10	0	—	0	0	0	—
——— American	—	—	8	10	0	—	9	0	0	—
——— Dantzig	—	—	9	5	0	—	0	0	0	—
——— Hambro', white	—	—	0	2	4	—	0	2	6	lb.

*** The letter H. denotes that the price is getting higher, and L. the contrary.

††† It will be perceived that the above table does not contain *every drug* in common use: this defect arises from the want of a regular supply at the London market. D.

WE conclude this Number by requesting the indulgence of our readers, for the omission of several articles which our promises may have taught them to expect. From time to time, it will be found that NO subject mentioned in the Prospectus is overlooked: but we must be permitted, *occasionally*, to postpone the insertion of some articles, in order to introduce others of more immediate importance.

I. Kenny del.

SIMPSON'S PATENT INSTRUMENT for DRAWING TEETH.

THE

LONDON MEDICAL REVIEW

AND

MAGAZINE.

VOL. I. N° II. FOR APRIL MDCCXCIX.

ACCOUNT OF NEW PUBLICATIONS.

ART. I. *Annals of Medicine, for the Year* 1798: *exhibiting a concise View of the latest and most important Discoveries in Medicine and Medical Philosophy.* By AND. DUNCAN, Sen. M. D. and AND. DUNCAN, Jun. M. D. Fellows of the Royal College of Physicians. Octavo. Vol. III. 556 pages. Price 7*s*. MUDIE, Edinburgh. 1799.

THE FIRST SECTION of this volume contains a copious analysis of Dr. *James Currie*'s medical reports on the effects of water as a remedy in fever:—Mr. *Thomas Baynton*'s account of a new method of treating old ulcers of the legs:—Mr. *Everard Home*'s observations on the treatment of ulcers on the legs:—Dr. *Edward Jenner*'s inquiry into the causes and effects of the variolæ vaccinæ:—Mr. *William Blair*'s essay on the anti-venereal effects of nitrous acid, oxygenated muriate of potash, and several analogous remedies, which have been lately proposed as substitutes for mercury:—*Fred. Alex. von Humboldt*'s experiments on stimulated muscular and nervous fibres:—Mr. *J. C. Reil*'s exercitationum

anatomicarum, fasciculus primus:—*Antoine Portal*'s treatise on rickets:—*S. T. Sœmmering* on the organ of the soul:—*Gotthelf Fischer*'s essay on the air-bladder of fishes:—*V. L. Brera* on the exhibition of remedies externally by frictions with saliva:—*Vin. Chiarurgi* on the external use of opium:—*Francis Marabelli*'s analysis of the yellow Peruvian bark—analysis of maize—analysis of urine in jaundice—analysis of diabetic urines—analysis of some morbid animal matters resembling milk—analysis of the fluid contained in the abdomen of a dropsical patient:—Mr. *Thomas Brown*'s observations on the Zoonomia:—*Fourcroy* and *Vauquelin* on the spontaneous action of sulphuric acid on vegetable and animal substances—on the formation of ether:—*Josse*'s essay on opium:—*Cit. Alyon* on the medical properties of oxygen.

The SECOND SECTION contains several very interesting medical communications.

1. *Histories of singular Cases of ruptured Uterus and Vagina.*

By the late Dr. Ross, Physician at Hamburg.

The *first* case is a supposed laceration of the vagina during parturition, of which the following are the particulars. The wife of Mr. Granan, of Eppendorf, had been in labour of her fourth child since eleven in the morning of 1st July 1785: the head and a hand presented; the midwife, imagining she could deliver the woman, attempted about four o'clock to reduce the hand, during which the patient had four very strong pains, and felt as if something was torn, and as if a considerable change had taken place within her; the child mounting higher, and at first moving violently, but soon after the motion ceasing entirely, and the labour pains also. Other assistance had been sought after. Professor Unzer, who arrived first, informed our author he had examined and had felt the intestines, and that the uterus was, in a great measure, torn off from the vagina. Delivery was determined on. Upon viewing the abdomen, Dr. Ross found that the child

child extended from one hypochonder to the other, and felt the parts more distinctly than usual through the integuments.

" In passing up the hand," he observes, " I met with a loose pendulous body in the pelvis; which, as intestines had been mentioned, I thought might possibly be such, or the edge of the placenta. However, without particular examination, I passed my hand up behind it, and beyond the brim of the pelvis, without feeling the os uteri, or meeting with any other resistance. The points of my fingers now touched the child immediately, without any intervening substance.

" On examining the part, I found it was an arm. I passed along the body of the child, towards the woman's right side; and, getting to the extremity of a limb, I reached the right foot, which I brought gently down. The body easily followed, without bringing down the other foot; the back of the child to the fore-parts of the mother.

" In attempting to bring down the left arm, I met with some resistance; therefore I extracted the right, and afterwards (but still with some difficulty) the left. The head easily followed.

" I introduced my hand again; met with the secundines pretty high above the pelvis, quite detached all around. But I felt nothing of the fundus uteri, nor any thing circumscribing the space my hand was in.

" At this instant, my colleague, having his hand on the abdomen, said, ' Here is the placenta; but I do not feel your hand.' I then applied my left hand to the place he pointed out, where I found the contracted uterus, just above the ossa pubis. My right was then much higher on the placenta, which I brought away.

" I introduced the hand a third time, now to examine the uterus; the orifice of which I found contracted full as much as usual some hours after delivery. I passed up behind it, and could not doubt of my palm being on the ex-

ternal posterior surface of that viscus. But, to be convinced that an exceedingly dilated vagina did not occasion deception, I turned to the woman's left, to feel for the ovarium, and got an appendage of the uterus immediately between my fingers and thumb, probably the ligamentum ovarii. I felt no coagula nor intestines, but did not particularly search for them.

"The uterus, which felt very loose, moveable, and detached, I now reduced to its natural situation, and applied a bandage. I then told my colleague, that I was now satisfied of his having conjectured right (for I had all along entertained some doubt). He replied, that it was no conjecture; for he had felt, and even seen, the intestines of the mother.

"The belly was considerably swelled the third and fourth days, with some, but not frequent, vomiting, and a few aphthæ: Very little lochial discharge took place, and that not at all fœtid. No more fever than usual in ordinary cases. No considerable diarrhœa, nor any uncommon symptom. She had her belly kept open; took early and liberally of extract of Peruvian bark, and also Riverius' mixture: she had in general appetite for food, and slept well.

"I examined in the vagina at two different times during the first days, to discover if the vomiting had forced any thing down into the pelvis, but found nothing.

"The 3d of August, the thirty-fourth after delivery, I examined again in the vagina. The os uteri admitted the point of a finger, but did not in the least project. I felt no other perforation. From the back-part of the orifice of the uterus, or what I took for such, a cicatrix extended about two inches obliquely downwards, and to the left of the pelvis; then somewhat upwards, in a semicircular form. I passed my finger several times along this cicatrix, pressure upon which gave no pain.

"Mrs. Granan now walked about the house, also in the garden,

garden, and made no manner of complaint. I therefore suppose her perfectly recovered."

The *second* is a case of another laceration in the same female, who was again pregnant and near her time in May 1787. In this instance the child's head descended, after the laceration, into the pelvis, and was extracted by the forceps, the pains having ceased upwards of sixteen hours.

"On applying a hand to the woman's belly," says the author, "I felt the uterus of the natural size. I waited some time for after-pains: none coming, I examined with a finger in the vagina, where I found a loose substance, which I took for the edge of the placenta, covered with the membranes; but on examining more narrowly, I discovered it to be intestines.

"I now introduced the hand along the funis, till I came to what seemed to be a knot upon it. This, I then thought, accounted for the child's death. I could not trace the funis farther than this knot, when it seemed to be entangled with other parts. At a little distance from this, I felt somewhat like the funis again, running in a transverse direction, round which I passed my finger, and found that there was no mesenteric attachment, therefore no intestine. I supposed then, that the funis divided, and was inserted into two different parts of the placenta. Not comprehending what I felt, I passed my hand farther on, turning the palm forwards, and found a body which I at first thought might be the placenta. Examining whether it was every where detached, I observed that it was too smooth and uniform for the placenta; I concluded it, therefore, to be the uterus. Advancing my hand still farther, I found there was nothing between the points of my fingers within, and the hand without, but the parietes abdominis. I had the palm of my hand, therefore, on the external posterior surface of the uterus. I now withdrew my hand, keeping it in contact with that viscus, till I came to the os uteri, which was

more

more contracted than is usual so soon after the birth, unless by a temporary spasm. In that contracted state I could not reach far into the uterus; nor did I feel any part of the secundines, nor the funis leading to them. I therefore withdrew my hand entirely.

"After letting the woman repose for some time, I introduced the hand again. The intestines were in the way; but, tracing the funis to the knot, and where it seemed to be entangled, by gently pulling, it seemed to slip off from its former attachment at that place, and now led me to the placenta loose among the intestines.

"When the placenta was extracted I only cast my eye hastily over it, having many other things to attend to.

"There had been all along no discharge of blood, nor did any thing like a recent effusion follow the placenta, only a bloody serum, and that in no great quantity. I had felt no coagulum in the abdomen. The belly appeared to be larger than after the former birth, probably from inflation of the intestines; partly, perhaps, from her having lain with the shoulders low the former time, as it was a turning case; and this may, in some measure, account for the intestines having been less embarrassing after the former birth.

"I now applied a bandage very loosely, and placed her in bed, with the shoulders low, desiring her not to sit up, or make any effort to raise or turn herself. She had no bad symptoms arising from parturition. She complained only of the cough and a swelled erysipelatous leg."

For two weeks the patient had more or less of fever, diarrhœa, aphthæ, and sometimes vomiting, but in general had some appetite for food. The lochial discharge was scanty, and for the first eight days fœtid. The belly was at one time enlarged and had a tympanitic feel, but this soon disappeared. An abscess, however, in about three weeks after delivery, the author informs us, pointed near the navel, from which about six ounces of fœtid matter were evacuated.

evacuated. This terminated in a fistulous opening, which however did not prevent her from visiting her friends.

The third case is *a rupture of the uterus during parturition.* The woman had been in labour three days, it being her first child, when she and the midwife heard a noise as if something had burst within her: it afterwards became more prominent and fuller at the upper part, and the head changed its position in the vagina. Dr. Ross immediately ascertained, from the feel of the looseness of the scalp and sharp feel of the edges at the sutures, that the child was dead, and that putrefaction was going on, and went home for his instruments to deliver, but found upon his return the woman expiring. "Having gained permission to inspect the body, I made," says the author, "a short incision through the containing parts, where thinnest; intending, should the smell prove very offensive, to sew it up again immediately: A small quantity of fœtid air issued at the opening, but not very intolerable. I therefore proceeded to expose the uterus fully. There were only six or eight ounces of bloody serum in the abdomen; no considerable fœtor, nor diseased appearance; except that the uterus was exceedingly distended, and of an uniform figure, as if blown up. To the left, it was emphysematous; the external tunic was there separated from the substance of the uterus. Under the ligamentum latum of that side an arm of the child could be felt, covered only by the peritonæum. I now opened the uterus; which was not thicker than the eighth part of an inch, and tore as easily as a sheet of writing-paper, especially towards the left. It contained no detached air. The child was exceedingly emphysematous; the nates uppermost, and forwards; the feet backwards, inclining to the left. It required a considerable degree of force to withdraw the head from the pelvis. The placenta was easily separated. No appearance of large vessels or sinuses; no extravasation; no coagula. But,

now

now that the uterus was emptied of the child and secundines, there soon accumulated a great deal of bloody serum in it; which was removed by a sponge, but continued to accumulate quickly. Searching for the source of this fluid, I found that it had been collected under the peritonæum, from where it covers the musculus iliacus internus, to above the kidney, and back as far as the spine; but there was no coagulum. The laceration in the uterus began backwards, a little above the os tincæ; extending to where it was mentioned that the arm of the fœtus was felt under the ligamentum latum.

"Was not the uterus burst, in this case, by the increasing bulk of the child? Was not procrastination here carried too far?"

The fourth case is also *a ruptured uterus*. This woman was in labour of her ninth child, and had twice borne twins; all natural births, and living children. The labour had commenced the preceding day, the waters had discharged copiously; the pains before midnight were very strong, but then ceased. She complained of anxiety and a continual pain in the belly, particularly to the left; was seized in the morning with convulsions, and had a discharge of blood from the vagina. The author found her unable to lie down, on account of anxiety. Having examined the woman, and not feeling any part of the child, although the midwife informed him she had before passed her hand quite round the head, he suspected the uterus was ruptured. After having delivered her of a dead and large child, he again introduced his hand, to ascertain whether the uterus was really ruptured, when passing the pelvis he met with no resistance, till he came to the firm smooth surface of the parietes abdominis, forwards; and backwards he felt the intestines. A bandage was applied, and the woman put to bed; a light cordial was given her, but she died in three minutes. In-

vestigating the uterus afterwards, it was found ruptured from the collum anteriorly, upwards, half way to the superior part of the fundus uteri.

2. *Histories of different tetanic Complaints, in which the most powerful Remedies were employed in vain.* By Mr. DALLAS, Surgeon on board his Majesty's Ship Union.

A strong negro man, about twenty-five years of age, received a prick from a cotton stump in the sole of his foot. The wound was enlarged, suspecting a portion of the wood was remaining, but none could be found. It was then washed with spirit of turpentine; and being very trifling, no further notice was taken of it. On the fourth day, however, symptoms of fever arose, and the pain increased. The following was prescribed; ℞ camphor. ʒj calomel. ppt ʒfs opii pur. gr xviii. M. bene, et divid. in pil. N° xviii. One of these pills was to be taken three times a day, and a glyster was ordered to clear the bowels. There was no alteration the next day for the better; the pulse and bowels were regular, but the pain was increased, and prevented his sleeping. The pills were continued, and a cataplasm was applied to the sore, which discharged a thin serous matter. In the evening he complained of pain and stiffness of the muscles of the back, against which mercurial frictions were employed; they however increased, and at night there was a difficulty in swallowing. The number of pills was increased; the frictions were to be continued through the night, and the cataplasm was to be repeated, should there be no appearance of sleep. The next morning his jaw was locked, and all the symptoms aggravated; general convulsions were induced by every attempt to swallow: the same plan was enforced, but he died in the evening.—Another fatal case is related of trismus, from an abscess on the metatarsal bones, in which the same plan was followed; except that the doses of laudanum and calomel were much more

considerable, there being ʒiſs of the former and six grains of the latter given every hour.

3. *History of a singular Case in Midwifery, where Delivery was accomplished in consequence of an Incision by the Vagina.* By Dr. Isaac Cathrall, Philadelphia.

Mrs. J. of a good constitution, twenty-one years of age, was in labour with her first child; the pains were strong, and the head had proceeded low down into the pelvis, but there was no discharge from the uterus, nor could the os tincæ, nor any opening into the cavity of the uterus, be discovered by the midwife. The author being called in, found, on examination, a protuberance projecting in the vagina, "about half the size of an egg, of a spongy vascular texture, and of a dark colour, but not pervious. This protuberance was pushed forward by the head of the child during every pain, in the absence of which it receded. During both situations, the parts were exposed, and minutely examined for the os tincæ and opening into the uterus; but nothing could be observed more like the former than what we have already described, the vagina appearing like a blind pouch.

"The circumstances of the case being ascertained, it was proposed to cut down through the uterus on the head of the child, and suffer the pains to dilate the opening, and finish the delivery.

"The patient was placed on her back, with her legs separated, and drawn up towards her buttocks.

"I made an incision," says Dr. Cathrall, "while the parts projected, in consequence of a pain, about one inch and a half in length, through the projecting body, downwards with respect to the peritonæum, and inwards as to the child's head. But it required several strokes with a scalpel before we could cut into the cavity of the uterus; the thickness of the projecting body being more than one inch.

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"The hæmorrhage which ensued was trifling, gradually diminished, and at length entirely ceased; and in an hour she was delivered of a healthy child." The wound was kept open by a linen tent, and she soon recovered.

"The favourable termination of this case manifestly points out the propriety of doing the operation early, under similar circumstances; and evidently shows, that the os tincæ, and neck of the uterus, may be freely divided, without profuse hæmorrhagy, or subsequent alarming symptoms."

4. *Account of a contagious Fever, which appeared in his Majesty's* 88*th Regiment, in the Island of Jersey, in July* 1797. By Mr. M'Gregor, Surgeon to the Regiment.

The fever, we are informed, in every instance, was the *Typhus*, or that usually denominated low nervous fever. The only peculiarity attending it, was the very sudden attack in several cases with epilepsy, delirium very quickly supervening, and the absence of a cold stage in most instances. The pulse was at first remarkably full and hard, so much so, as in two instances to lead Mr. M'G. to open a vein.

In no case did the fever put on a remittent form, though one man, after being dismissed and sent to barracks, has had an intermittent.

In the *treatment* it was found, in every case, necessary to clean the stomach and bowels. Immediately on doing which, and during the paroxysm, James's, or the antimonial powder, was given in repeated doses. At the time of taking the antimonial, bark and wine were exhibited, and the patient took of decoction of bark, a quart in twenty-four hours; with seneka, aromatics, or laxatives, as occasion indicated.

It may be worth remarking, that the first, and only case that proved fatal, was treated on the antimonial plan, and no bark was exhibited, nor wine in sufficient quantity.

Blisters gave great relief where there was headach, and an opiate was generally wanted at bed-time.

The author then proceeds to point out the several circumstances which he is of opinion had their share in producing the disease: these are, the situation of the barracks, the state of the weather, and the great intemperance of the men, &c.

5. *Account of a Case in which a Fistula in Perinæo was successfully healed by the Introduction of a Seton.* By Mr. Adam Burt, in the Service of the Honourable East India Company.

"Mr. ——, of the Bengal civil service, had a fistula in the perinæum of considerable standing. The external opening was by the side of the anus, or at least very nearly as low. The urine was voided in considerable quantities by the sinus."—A seton was made in the following manner:

"I introduced," says the author, "a directory at the opening, and carried it up to the junction of the sinus with the urethra. This was a painful operation; for the sinus *burrowed*, and the skin was thick and hard all over the diseased parts.

"I punctured down by the side of the urethra (carefully avoiding it), to the directory, which then received the end of the probe-needle, armed with the cord.

"By thus introducing the seton from above, the cord in dressing was drawn downwards, and so favoured the discharge. In six or eight days the discharge became of a healthy appearance and consistence. A considerable inflammation was excited all around. Ever after the introduction of the seton, the urine flowed the natural way.

"I withdrew the seton on the ninth day from the operation, and applied a compress, wet with camphorated saturnine solution, secured by a bandage, so as to give as much pressure as could be well borne by the patient, but avoiding the urethra. I used no bougies, fearful of irritation. The parts healed by the first intention." G.

(To be concluded in our next Number.)

ART. II. *An Account of the Plague which raged at Moscow, in* 1771. By CHARLES DE MERTENS, M. D. Member of the Medical Colleges of Vienna and Strasburgh, formerly Imperial and Royal Censor, and corresponding Member of the Medical Society at Paris. Translated from the French, with Notes. Octavo, pp. 122. RIVINGTONS, London. 1799. Price 2*s.* 6*d.*

THE translator very properly remarks, that "histories of the plague, exhibiting the modifications it undergoes in different climates, must at all times and in all places be acceptable, if not to the public at large, at least to that class of persons who make the art of medicine their study and employ: but, to a country situated like our own, histories of this terrible disorder occurring in the northern parts of Europe are more particularly interesting, by holding up to our view a picture of what it probably would be, whenever it should visit us again. Such a picture is presented to us in the history of the plague which depopulated Moscow, and other parts of the Russian empire, in the year 1771, and which forms the subject of the following pages. What, at the present time, must give a greater degree of interest to such a subject is, the danger to which we are exposed of importing the pestilential contagion from America*, on the one hand, and from Turkey and the Levant, on the other: for, although the cold has happily suppressed for the present the pestilence which has been committing such dreadful ravages at Philadelphia and New York, yet is it to be feared that it may be retained in many houses, and lie dormant in various goods, ready to break out again, whenever

* "Whatever doubts might have been entertained as to the real nature of the yellow fever, on its first appearance in North America, I believe almost all physicians are now agreed that it is the plague, with such modifications as are easily referable to difference of climate and different mode of living."—*Translator.*

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it shall be favoured by the weather: and no one, who is acquainted with the nature of that contagion, can deny the possibility of its importation from America into this country, either now or hereafter, by infected persons or infected merchandise. On the other hand, are we not threatened with a similar danger from the East? In executing the hostile operations which are going forwards in the Mediterranean, it seems scarcely possible for our fleets and armies to keep clear of contagion. No nation was ever long engaged in a war with the Turks without taking the plague. In this respect, they are as much to be dreaded by their friends as their foes. If, in the present contest, Italy, and France, and England, shall escape this scourge, it will form an exception to past events, which all Europe must devoutly pray for."

Under these circumstances the translator thought it would be useful to call the attention of medical practitioners in this country to the subject of pestilential contagion, by publishing an account of the plague which raged at Moscow in the year 1771.

Dr. De Mertens (who was physician to the Foundling Hospital at Moscow, and resided in that city during the whole of the time the plague prevailed there) divides his treatise into four chapters; in the first of which, he gives a history of the plague as it appeared at Moscow; in the second, he treats of the diagnosis; in the third, of the curative treatment; and in the fourth, of the precautions or methods of prevention.

So many works have been published on the plague, that whoever writes a regular treatise on this disorder, cannot avoid repeating many observations that have been made by others before him. Hence, instead of dividing the present pamphlet into chapters and sections, and following the original word for word throughout, the translator informs us, "he has taken the liberty of extracting from the two

last

last chapters those parts only which contain new observations, or which have an immediate reference to the narrative." Some other less interesting parts of the original work have likewise been passed over in the present translation. But occasional notes are added, to illustrate the subject, and to supply the defects of the author.

Next to a detail of all the events which took place during the raging of the plague at Moscow, the translator has especially aimed at a full and accurate delineation of the symptoms. In doing this, he says, "he has taken the pains to compare the description given by Dr. Mertens with those of two other writers on the same subject; viz. *Orræus* and *Samoïlowitz*." Thus he flatters himself that all the different types and modifications which the plague assumes in the northern parts of Europe, are here developed in such a manner as to enable those who have never seen the disorder to detect it on its first appearance, or in its early progress, should this country have the misfortune to be visited by it again.—We shall only add, that, after comparing this translation with the original *Latin*, we find it sufficiently accurate and faithful. T.

ART. III. *An Outline of the History and Cure of Fever, endemic and contagious; more expressly the contagious Fever of Jails, Ships, and Hospitals; the concentrated Endemic, vulgarly the Yellow Fever, of the West Indies. To which is added, an Explanation of the Principles of military Discipline and Economy; with a Scheme of medical Arrangement for Armies.* By ROBERT JACKSON, M. D. MUNDELL, Edinburgh; and LONGMAN, London. 1798. Octavo, pp. 396. Price 7*s*.

DR. JACKSON, already well known to the medical world by the excellent volume he published in the year 1791, entitled, "A Treatise on the Fevers of Jamaica," here pre-

presents us with the result of his experience during a regular and constant attendance upon a part of the British army in the present war; and delivers also the medical history of the campaign on the continent, several remarks on the disposition of the troops in tropical climates, and observations on military economy. The work is divided into two parts.

The first chapter contains a short history of the origin and progress of contagious fever, as it appeared in different divisions of the British army during part of the year 1793, the years 1794, 1795, and part of 1796. After exhibiting a summary view of the state and progress of this fever, the author proceeds to inquire into the sources of the error from which the calamity originally arose, and the causes by which it was propagated and aggravated, in many instances, from slight beginnings to the most extreme degrees of virulence. These he states to be the raising of independent companies in a very short time, mostly by young subalterns, from jails, workhouses, and manufacturing towns. Disease and vice were traced to have entered into the regular regiments from this source; and the whole mass became infected. Besides these, he is of opinion that to the above may be added, defect of care in examining and ascertaining the state of health existing among the troops previous to embarkation for foreign service, and the want of attention being paid to the sick in the general hospitals.

It appears clearly from the medical history of the British army, related in this chapter, that the contagious fever was an artificial disease, and that the mortality of it was increased and aggravated by artificial causes.

The second chapter contains remarks on the local aspects of such situations, in St. Domingo, as were occupied by British troops; with a summary history of the more general forms of disease, prevailing at different posts, and in different districts. The remarks here offered are of the utmost importance, and deserve to be made universally known

to

to the statesman and the general, in order to preserve the health of the European soldier.

We now come to the third chapter, allotted to the remote causes of fever. Dr. Jackson is of opinion that endemic or contagious fevers owe their origin to two sources only. "The first, a vegeto-animal source, usually called marsh exhalation, occupies the wide-extended bosom of the earth; it is generally diffused in the atmosphere, abounds more in some situations than in others, and is rendered more or less active by a great variety of causes. This cause produces disease, and frequently such a derangement of the system as is incompatible with life; but it is lost in its first operation.

"The second, deriving from an animal source, more expressly from an altered condition of the living human body, is confined in its sphere of action, communicated only by contact, by near approach, or by a medium connected with the source. This cause produces disease, and under that disease such a derangement of the system arises as begets a multiplication of the original cause, which extending itself to a certain distance from the source, propagates similar disease through a series of subjects."

Dr. Jackson then points out that the first of these sources is the cause of endemic fevers, and proceeds to establish a connexion between it and the principle of vegetation, which, from its singularity and novelty, we shall deliver in his own words:

"It will perhaps be doubted," says the author, "for it does not admit of positive proof, that the cause of fever is fundamentally the same with the cause or principle of vegetation; but if not the same, it is evident there subsists a strong connexion between them. Endemic fever is almost uniformly prevalent, where vegetation is luxuriant, at least, where the requisites of a luxuriant vegetation greatly abound. In this manner, as vegetation is more luxuriant in tropical

and warm climates than in temperate and frozen regions, so notoriously is endemic fever. Vegetation is more luxuriant, or the causes of vegetation more generally abound in vallies, plains, near the coasts of the sea, near the swampy and oozy banks and mouths of rivers, than on hills and mountains, in inland countries, and in soils light and dry; so does endemic fever. But though the matter and active principle of vegetation be generally most abundant in the situations alluded to, yet such situations are not uniformly covered with the most luxuriant and healthy vegetable productions;—something depends upon adventitious circumstances. Plants, as well as animals, are seen to sicken and die from excess of nourishment; and in consequence of this, perhaps, it is that excessively rich and swampy grounds are often bare, or possess only a stunted vegetation. In such cases the neighbourhood is unhealthy; for it would appear that the materials of vegetation abounding in excess, acted upon by a powerful cause, give out a principle, which, not being expended in the growth and nourishment of plants, is diffused to a certain extent in the atmosphere, occasioning a derangement of such bodies as come within the sphere of its action. To this excess of an unappropriated vegetable principle, may perhaps be imputed the increased degrees of unhealthiness so often observed in the neighbourhood of swamps, newly cleared of their woods; as, on a contrary cause, may be understood the explanation of a fact frequently noticed, that swamps and luxuriant soils lose their noxious qualities when planted with sugar-cane and other productions which have the capacity of receiving much nourishment.

"The rise and progress of endemic fever are obviously connected with the different periods of the season, and this connexion may be supposed to afford some illustration of the opinion just now mentioned. In spring, the principle of vegetation is extricated in great quantity, while the capacities of plants are still small; an excess is consequently generated,

generated, and this excess extends its influence to a certain distance around. In summer, the extrication of the principle still increases, but, the capacities of plants being extended in a greater proportion, the means are more adequate, and the excess is actually less. In autumn, the growth of plants being completed, while causes still continue to produce a great extrication of the principle of vegetation, the excess abounds, and occupies a wider circle.—Upon this principle also may perhaps be understood the occasional unhealthiness of lands dry and rocky, bare and barren, or that produce only shrubs and trees of stunted growth. The Mole St. Nicholas, in St. Domingo, affords an example of this. The Mole cannot be said to be a healthy situation, yet the soil is not rich, nor is there swamp or stagnant water near it. The breezes from the sea are, for the most part, regular and strong, and there is upon the whole very little rain—the reputed cause of fever; but the surrounding hills have a sterile aspect, and produce only a few stunted shrubs and plants of low growth: hence, perhaps, it is, that the principle of vegetation, extricated, at certain periods, in greater than usual quantity, abounds in excess, and, diffused in the air to a certain extent, affects the health of man.

"The regular rise, progress, and decline of endemic fever, as connected with the periods of season, seem to be explained by the supposition of an excess of the principle of vegetation, extricated by known causes from known and visible materials; but it sometimes happens that fever becomes epidemic in a country, in a district, or in a particular spot, out of season, and without the visible and obvious causes usually connected with the rise, progress, and decline of such diseases. It is to be lamented, that accurate observations on the state of the vegetable kingdom have not been made on such occasions; but it is probable that if the state of things could be exactly known, the capacities of

vegetable productions would be found to be preternaturally diminished, at such periods; or that the extrication of the vegetable principle was then increased in an extraordinary degree, from general or accidental causes."

The chapter is finished with some judicious remarks upon the sources from which these fevers originate. Respecting that of animal origin, the author observes, "Artificial constraint and confinement in narrow space, by inducing a new process of secretion in the living system, seem to be the leading instruments in generating the cause. The organization of the human body is proved to be such, that it does not preserve a healthy action, unless under pure and free air; nor does it possess vigour, unless under frequent change of place, and active exercises, calling forth the exertions of the moving powers. It indeed appears, that the accession of pure air, and the active employment of the limbs or powers of motion, are the principles given by the Author of nature to preserve the health of the animal system; for whenever the human body becomes deprived of these essentials, its health languishes, and its vigour decays; nay, the actions which support life are then not only languid, but they become diseased, or fall into unnatural movements; in consequence of which, the ordinary secretions are so changed, that, though the actual existence of fever be not apparent, something noxious seems to escape from the system, which, to a certain extent from its source, affects the health of others. In this manner it has often been observed, that persons from jails, workhouses, and other places of artificial confinement, though not at the time, and, what is still more remarkable, though not observed at any period to have laboured under formal disease, carry in themselves or in their clothes causes which occasion fever, in its most formidable aspect, to those who approach near to them. This silent, as it were, and gradually changed secretion is sometimes found among large bodies of men whose atmo-

sphere proves certainly noxious to the irritable habits of full health, but affects in a smaller, if in any degree, those situated similarly with themselves. It is further to be observed, that the cause thus generated speedily produces a fever in the body of a healthy man; and that the fever so produced is accompanied with such alterations in the secretions of the system as to generate a cause, occasioning similar disease, through an endless variety of subjects. This is a curious and an important fact. The fever, which owes its origin to certain connexions with vegetable and dead animal matter, shows no disposition to propagate itself; the fever, which arises from a connexion with the living human body in a diseased state, multiplies with great activity; frequent ablutions, change of place, and change of clothing, under a warm and freely circulating air, dissipate the cause, but do not change the nature of the disease. A fever, originating from a contagious source, preserves the quality of contagion as long as it exists, though often prevented by management from spreading its influence to a wide extent."

The fourth chapter contains a number of cases of contagious fever. "April 23d, 1795. B——l, a stout and healthy man, employed as an attendant on the sick in the hospital at Dorum, seized suddenly with fever of uncommon violence, with headach intensely severe, spasmodic and convulsive twitchings frequent and alarming; the heat is caustic and pungent; the pulse quick, irregular, and frequent; anxiety and uneasiness are distressing; breathing is deep and heavy, with frequent sighing; aspect clouded and grim. He was vomited, purged, and blistered very soon after the attack; Dover's powder was given, in repeated doses, with the intention of exciting perspiration. 26th, The symptoms described above are aggravated in degree, and are in reality of uncommon alarm; the breathing is heavy and oppressed; the intellect disordered; the eye turgid and red; the countenance dark and grim; the skin dry; the heat great and pungent,

pungent, with startings, tremors, and actual convulsive motions recurring frequently.—The danger of the case appeared to be great: an attempt was made to obviate it, by exciting the energy of the system to complete reaction. In this view, a powder composed of salt of hartshorn, antimonial powder, opium, snake-root, and valerian in large quantity, was administered every two hours, with half a gill of Port wine, or a glass of brandy; blisters were applied to different parts of the body, the extremities were fomented with flannel wrung out of hot water; the rest of the body was washed with water from a spring. The end proposed—a general perspiration, was effected within a few hours; it was supported for some time; the symptoms abated, and health was speedily and finally established without a relapse.

"May 10th, 1794. C——ns, a grenadier of large size and gross habit, in the regimental hospital of the Buff for some weeks, under cure of a sore on the leg. The sore was healed: on the eve of being dismissed, he was suddenly attacked with fever:—having no duty to perform, he made no complaint immediately, so that the disease had advanced to the third day before it was known that he was indisposed. The pulse was then quick and frequent; the headach uncommonly distressing, with much thirst, and a most ardent heat; the skin was dry, and so tender of the touch, that grasping the arms or legs with force caused him to call out: to this was added, a certain lividness of the countenance, and even some marbledness of skin; with great restlessness, uneasiness, and want of sleep. Laxatives and sudorifics, antimonials with calomel, camphire, and opium, &c. were employed freely, but without benefit. On the morning of the 6th, the pulse was observed to have lost force and energy; it was small, frequent, and contracted; the heat of the skin was below natural, but the skin was still tender of the touch; the eye and countenance were heavy and inanimate;

animate; the intellect was not clear. Wine was given in large quantity, but the coldness of skin increased; the intellect became more and more confused; the pulse seemed to retire gradually, and the period of total failure did not appear to be distant. In this situation, a large glass of gin, with twenty grains of salt of hartshorn, a drachm of bark, ten grains of snake-root and one of opium, were given every two hours or oftener; blisters were applied to different parts of the body, and washing with cold salt water was repeated several times during the day. In consequence of perseverance in this plan, the pulse became strong, full, and open; the heat returned, and even exceeded natural; the countenance resumed animation; the motions of the eye became lively; and, though spasms and startings still continued, they were at longer intervals, and otherwise indicated increase of vigour. During the 7th, 8th, and 9th, matters improved much; the intellect was clear; the eye and countenance animated and lively; the pulse strong, full, and expanding; the skin warm, but still dry; evacuations regular. 10th and 11th, no progress; the countenance, on the contrary, less animated; the motions of the eye more languid, the twitchings less frequent indeed, but also less powerful; upon the whole, signs of diminishing energy evident. 12th, He died suddenly, in the act of swallowing, without any material change having preceded the fatal convulsion.

"The first period of this disease was marked by ardent, pungent heat, by great restlessness and distressing headach. These symptoms subsided about the 6th; and a gradual collapse appeared to be taking place. Stimulating powers quickened the tide of circulation, restored the heat, and apparently the energy of the system; but the effects were not completed, probably owing to neglects or defect in management."

We have extracted these two from five cases, which, the

author

author observes, are among the more regular forms of contagious fever. The excitement of the system was evident from the commencement; and the period of crisis or change was about the seventh, the more usual period of perfect termination.

Six cases are next related, which furnish examples of a form, the duration of which does not exceed the fifth day; it frequently terminates on the third. It sometimes terminates by crisis or sensible evacuation, oftener in a certain subsiding or suspension of diseased motions; in either case it is subject to recur at a short interval. "April 16th, 1795. P——n, attendant on the sick in the hospital at Dorum, went out in the evening to light a candle, and returned in a few minutes giddy and stupid, as if dead drunk; considered as such, by his companions, he was concealed from the medical officer for twelve hours; next day he showed marks of an oppressed brain; he was deeply comatose; the pulse was nearly extinguished; the skin was purplish, cool, and clammy; he was speechless, and died in the night, in less than thirty hours from the attack.

"February 26th, 1796. W——n, an orderly attendant on the sick, had been drooping for some days, but said nothing; to-day seized suddenly with pain of the head, as if knocked down by the blow of a hammer; the eye white, glossy, and inanimate; the countenance grim and cloudy, with a tinge of a dusky yellow, exhibiting a colour not unlike that of mahogany; the pulse, superficially observed, appeared natural; closely examined, it seemed deficient in elasticity and expansion; the heat low on the surface and extremities, pungent on the trunk of the body, or on forcible pressure of the arm; the tongue foul, white, and slimy, but moist; the saliva tough and ropy: the head was blistered; the warm bath was prescribed; and the body was opened by means of calomel and James's powder. He seemed easier towards evening. 27th, Seized with a con-

convulsion, and died suddenly; the countenance like mahogany, with a tinge of yellow; the eye clear, glossy, and inanimate.

"The above two cases are of the most concentrated form; reaction, or increased action of the vascular system did not take place, at least was not generally established."

The next case which is related affords an example, where the cause of fever seemed to act chiefly, by occasioning a peculiar derangement of intellect, which continued near a month, aggravated in paroxysms, but never absent.

The only example of fever in dysenteric form is the following. "March 4th, 1796. C——l, attacked four days ago with violent griping, and severe purging. 5th, Purging abated, a sensation of want of power of the alimentary canal remains; calomel, antimonial powder, and aromatic confection. 6th, Tongue dry, skin hot, eyes yellow, pulse quick and small. Glysters and warm bath. 7th, Better; body open; three stools. 8th, Better. 11th, Yellowness gone; recovering fast."

The author next relates two cases of relapse, where the first operation of the cause proved fatal, and then proceeds to the relation of cases of endemic fever. "Sept. 1, 1796. A serjeant of the 67th regiment was attacked, two days ago, with severe headach and other signs of fever; the heat ardent; the pulse tense, quick, and frequent. Nothing was done till the evening of the second day, when fourteen ounces of blood were drawn from the arm; the headach was instantly relieved: James's powder was given immediately, with eight grains of calomel; copious evacuations by vomit and stool were the consequence. This morning—the headach is abated; the appearance of the eye is less inflamed; the heat is diminished, as also the quickness and frequency of pulse, but the force of the stroke is diminished, and there is not any tendency to perspiration; there is likewise a sense of oppression at stomach, with sickness,

great internal heat, and restlessness. Evening—extremely uneasy, anxious, and restless; vomits matters glutinous and flakey; the pulse small, confined, and hesitating; the body open; the countenance changing colour often, flushed or pale; no perspiration. 2d, Extremely uneasy; no rest in any posture; the uneasiness referred to an anguish at stomach; vomiting and purging of watery stools, severe and harassing. The vomiting abated about ten o'clock; he became insensible, convulsed, and died about noon.

"August 19th. Jn——m had been rather unwell during the earlier part of the day; in the evening seized with headach, chilliness, and fever. 20th, This morning the skin is hot; the face flushed; the tongue foul; the pulse strong, frequent, and quick; the eye muddy, and somewhat inflamed. Jalap and calomel in large dose. Evening—The heat rather abated; the skin dry; the pulse strong and frequent:—the medicine operated severely. 21st, Purging still considerable; the skin hot and dry; the heat pungent; the pulse tense and hard; the eye muddy; with headach, foul tongue, frequent sighing, and heavy breathing: bled, and bathed in warm water in the evening. 22d, Slept during the night; the headach abated, the eye less muddy; the extremities cool; the chest and præcordia pungently hot; the pulse weak, but diminished in frequency—scarcely febrile; the tongue red at the edges, or beginning to become clean; the body open, even to purging; no sickness, or vomiting; the lips dry; the skin dry, with a certain tinge of yellow about the neck and corners of the mouth. Evening—He sighs frequently, but does not complain of pain; the heat of the skin above natural; the pulse fuller than in the morning; the tongue moist, and clean at the edges; the præcordia hot; the breathing thick, and chiefly performed by the muscles of the abdomen; the countenance grim and cloudy; some degree of purging—perhaps in consequence of having drank plentifully of beverage

rage of cream of tartar. 23d, Considerable purging during the first part of the night: at present he vomits flakey matter; the veins of the eye are become red, as if injected; the countenance is dusky and livid; the skin cool and dry; the pulse sinks; the breathing is thick and oppressed. He died about noon.

" August 24th. Y——g, attacked with the usual symptoms of fever in the night; bled in the morning; bled again about noon. Evening—He expresses relief, but still complains of thirst; the skin is hot, without signs of approaching perspiration; the pulse tense and quick. Salts and emetic tartar have operated freely. 25th, Slept during the night; is easier, but does not perspire; the body is open, and the fever moderate. Evening—He began to perspire about noon, with relief; the skin is now warm and moist; no particular complaint, but the pulse is still febrile. 26th, Slept during the night; the pulse subsided; but the skin dry, and marks of crisis not decisive. Evening—Nausea, and desire to vomit; the skin dry. 27th, The pulse slow, soft, and full; the skin warm, with general sweat, and marks of crisis. Recovered rapidly. *N. B.* Besides the bleeding and emptying of the first passages by means of salts and emetic tartar, this patient was bathed in warm water, and obliged to continue in the bath till he was upon the point of fainting; after which he was washed with water from the sea.

" September 3d. E——s had been ill of fever two days, but was not attended to till late last night; the heat was then strong and deep seated, the headach severe, the eyes muddy and inflamed. He was bled immediately, to the quantity of twelve or fourteen ounces, bathed in warm water; the head was shaved and blistered, and the bowels were opened freely by means of salts and emetic tartar. The external marks of fever are less prominent this morning, but the skin is dry and husky; the headach is somewhat

abated, but the eye is still inflamed and muddy; the tongue is foul; the lips dry; the thirst considerable; purging is in excess; the stools are watery and large; the pulse is without expansion of stroke. Evening—The pulse became gradually weaker in the course of the day, and now is not to be felt at the wrists. He died about eight o'clock."

These four cases of fever, the author informs us, "furnish examples of that form of disease, where there is a considerable degree of vascular excitement in the early stage, terminating commonly by deranging the functions of an organ of importance, most frequently the liver or stomach. Yellowness and black vomiting are common; and it is more especially to this form that the name of Yellow Fever has been applied; but, though the yellowness and black vomiting be common, they are not constant and essential. Determinations sometimes change suddenly: the brain becomes overwhelmed, and stupor or convulsion then cut short the ordinary rapid course."

Seven succeeding cases, two of which died, "furnish examples of a form of disease, where the vascular system suffered less commotion than in the former; determinations were sometimes irregular and changed suddenly, but organs did not seem to be generally destroyed by excess of excitement."

Of six other cases, four died, where the aspect of the countenance was dark and clouded, and other circumstances of suspicion were present. There was either a good deal of irritation of the moving powers, or marks of oppression and torpor, but the action of the vascular system was not fully and regularly excited.

This chapter ends with the history of three other cases, "examples of a form of disease of a remitting type, terminating rapidly in death by oppression, like the more formidable species, or showing marks of yellowness and exudations of blood in recovery, not unlike the concentrated disease called yellow fever." B.

(To be concluded next month.) ART.

ART. IV. *Advice to the Commanders and Officers of his Majesty's Fleet serving in the West Indies, on the Preservation of the Health of Seamen.* By LEONARD GILLESPIE, M. D. Surgeon to the Naval Hospital, Fort Royal, Martinico. Octavo, pp. 31. CUTHELL, London. 1798. Price 1*s.*

THE author was induced to draw up the useful hints contained in this pamphlet, from having observed the mortality which often takes place on board his Majesty's ships of war in the West Indies. He has studied to be as perspicuous and concise as possible, in order that the regulations he insists on may be the more generally read and attended to. The distinct topics of which he treats are, Unwholesome diet;—Unhealthy air, of roads and harbours;—Sickly seasons;—Infection;—Bad air, from crowded ships;—Exposure to the sun, rain, and dews of the night;—Irregularities on shore, or on board;—Excessive fatigue or inactivity;—Want of cleanliness, with regard to clothing, bedding, or men's persons;—and, Dejection of mind. On each of these heads, Dr. Gillespie has given very seasonable and appropriate instructions for the benefit of seamen. W.

ART. V. Dr. RUSSELL's *Account of Indian Serpents.*

(Concluded from page 60.)

IN the SEVENTH SECTION of this work, we have an interesting detail of the effect of the poison of snakes on the human body. Dr. Russell strongly recommends to the gentlemen of all situations in India, to transmit their observations on this subject to the Medical Board, that, from their united exertions, a medical history of the disease occasioned by the bite of poisonous serpents might be formed. He has here related nine cases, sent him by Mr. Duffin, Captain Gowdie, and others.

Case

Case 1. A Malabar woman was bitten in the small of the leg by a Cobra de Capello. Mr. Duffin saw her ten hours after the bite. She had lost her senses of seeing and feeling; deglutition was very much impeded, no other parts visibly affected with spasm; but a torpor and listlessness pervaded the whole system, and, from the moment of the bite, had continually increased. With difficulty she swallowed one Tanjore pill; the wound was dilated, and dressed with mercurial ointment. A second pill was given in three hours, but both without any effect. A third pill was exhibited four hours afterwards, which operated gently by stool, and produced a slight diaphoresis. In about eighteen hours from the accident, she gradually recovered her feeling and sight, and swallowed more freely. A pill was given every morning for three successive days, without occasioning any sensible operation, except nausea and diaphoresis. She remained weak eight or ten days, and then recovered without any other remedy.

Case 2. Peter Francis was bitten by what the natives call Viriyen Pambu, a small brown snake; the bite was in the middle finger of his left hand, and before Mr. Duffin saw him he had used the precaution of tying a string round the finger above the wound, to stop the circulation. It was not more than a quarter of an hour from the bite that he got one pill, and the wound was dressed as in the former case. Upon dilating the wound, a dessert-spoonful of blackish-coloured blood issued out; and instantly upon untying the string from the finger, he complained of a violent pain, shooting upwards to his shoulder, with a sensation of burning all along his arm. The man was sent to the barracks under the care of his comrade, who was provided with directions, and two more pills, to be given if necessary. The pain and burning sensation of his arm continued three hours; he became more and more restless, and, as the pill had not operated, a second pill was given. The inquietude greatly

greatly increased, and he was seized with a delirium, accompanied with spasms. In this alarming state, a third pill was given, about an hour after the second. A vomiting and purging immediately succeeded in so violent a degree, that in the morning he was hardly able to stand; but he was free from pain, and complained only of weakness. He took a pill two mornings following; after which he was well, and in four days able to do his duty.

Case 3. A Dubash was bitten on the toe by a snake, which, from his description, appeared to be the Cobra de Capello. A few drops of blood issued from the part, and he was sensible instantly of pain. "When he came to me," says Mr. Ramsay, who communicated this case, "about half an hour after the accident, the pain had advanced as high as the joint of his knee. I immediately prepared and gave him one of the snake pills, as directed; and, that no part of the prescription might be omitted, the liver of a frog was applied to the wound. In the course of ten minutes after giving the first pill, the pain had got to the top of his thigh, and became much more severe; I then gave him two more pills, and ordered a bottle of Madeira to be warmed: of this he drank about two cupfuls, but a part only remained on the stomach. The patient now complained of severe pains in his belly, which, upon examination, appeared tense and much swelled. A sense of tension or tightness spreading fast towards the breast, and respiration becoming extremely laborious, an attempt was made to make him take two pills more; but deglutition being impeded, a part of them only reached the stomach, and was immediately rejected. From this time the stricture on the œsophagus increased so much, that nothing could be forced down his throat; he foamed at the mouth; his eyes stood staring and fixed; his pulse and respiration became hardly perceptible; and, in short, every vital motion seemed at a stand. I applied spirits of hartshorn to his mouth and

nostrils, by which, in a few minutes, a strong sneeze being excited, he immediately began to breathe, and soon pronounced the word *better*. After he had recovered a little, he told me he felt the pain descending retrograde, in the same track in which it had arisen; and expressed a strong desire to sleep. He slept for a quarter of an hour, and upon his awaking vomited plentifully. He had now recovered his senses, and said he felt only a little pain in his foot, which at last descended to his toe; and, in the course of two hours more, he was able to walk home; but did not recover the fatigue for some days." Mr. Ramsay supposes the vomiting in this instance to have been occasioned by the pills, the effects of which, however, did not seem to be so violent as they are commonly said to be. The man told him he only felt them make his stomach a little warm.

The three following cases were communicated by Captain Gowdie.

Case 4. A Havildar, fifty years of age, was bitten by a snake on the little toe of his right foot, about one in the morning, in the guard-room. He was not, at the instant, sensible of much more pain than what is occasioned by the bite of a large ant, and lay down to sleep. At day-light, when the guard turned out to ground arms, he was found almost stiff, yet still retaining the power of speech, and declared he should inevitably die in consequence of the bite. He complained very little of pain, but seemed to suffer a general stupor; he had totally lost his sight, and expired before seven in the morning.

Case 5. A Sepoy of the same battalion was bitten, by the same snake, on the inside of his left wrist, within a minute after the Havildar. He also complained less of pain than of drowsiness, and went to sleep. Upon getting up at day-light, he complained of dimness of sight, and was ordered by the black Doctors to be led about, and to be kept in motion. At eight o'clock in the morning, when Captain Gowdie

Gowdie examined the wrist, two small punctures, about the eighth of an inch from each other, were perceived. At ten o'clock, he had lost his sight entirely, and was unable to keep on his legs longer; but he chiefly complained of being hindered from going to sleep. Soon after this, he was permitted to lie down; and, as in the preceding case, without convulsions, or suffering any visible agony, he expired half an hour before noon. The bodies were not buried till four hours after death (in March), when they began to putrefy. The name given to this snake by the natives was Min Naig Paum: it unfortunately could not be preserved, nor was a specimen ever procured. It was scarcely six inches in length; about the size of a large goose-quill; of a dark straw colour; a flat head, with two very small eyes, which shone like diamonds; and behind each eye was a black streak, about three-fourths of an inch long.

Case 6. A Sepoy was bitten on the ankle by a large snake, believed to be a Cobra de Capello, and was brought to Captain Gowdie's house within a quarter of an hour after the accident. His jaws were locked, his eyes fixed, and very little sign of life remaining. Four large punctures were visible on the ankle; to which *eau de luce* being applied, the man gave marks of sensibility, by drawing up his leg. Two bottles of Madeira wine were then made warm, and the jaws being forced open so as to introduce a funnel, almost the whole of the wine, in the course of half an hour, was poured down. The application of the *eau de luce* was continued constantly for three hours, till a whole bottle was expended. The patient was now totally without any sense of feeling whatever; and had it not been for a gentle heave of his breast every two or three minutes, I should (says Capt. G.) have thought him dead. He remained in this torpid state forty hours, and then began to show signs of returning life; it was twelve hours more before he recovered his speech; and he continued many days in a

very languid state. He is now one of the stoutest men in the grenadier company. From the sudden appearance of formidable symptoms in this case, Dr. Russell observes, the progress of the poison must have been extremely rapid. As nothing is said of the swelling and discoloration of the ankle, it is probable the local affection was inconsiderable; and, supposing the man not accustomed to spirituous liquors, the stupor might partly be imputed to the large dose of Madeira wine; but torpor is also a common symptom of the poison.

Case 7. A stout Arab was bitten by a small serpent, and expired almost instantaneously, after exclaiming that a snake had bit him. This account Dr. Russell received from Mr. James Bourchier, who spoke from memory, and added, that the snake to which the man's death was imputed, was by the Portuguese called Cobra de Morte; the length of the snake was from six to nine inches, its thickness that of a common tobacco-pipe.

Case 8. A Gentoo boy, thrusting his hand into a hole in the wall of an old house, was bitten in the hand. He exclaimed loudly, and in less than ten minutes expired.

Case 9. A Gentoo man, about forty years of age, was bitten by a Cobra de Capello, in the fleshy part between the thumb and fore-finger. He was one whom the author retained in his service for the purpose of procuring serpents, and also, as he was very adroit in handling them, for assisting in his experiments. He met with the accident after sun-set, in attempting, at the request of some neighbours, to catch a Cobra de Capello. The account he gave was, that he felt instantly a sharp pain in the part bitten, which soon spread on the palm, and upwards on the arm. He was sensible also of sickness at the stomach, but did not vomit. In less than an hour the hand and the wrist were considerably swelled, the pain extended nearer the shoulder; he was sensible of a confusion in his head, and a strong disposition

to

to doze. From this time he was for several hours ignorant of what had passed, except from the report of those about him. He at times showed much inquietude, without making any specific complaint; at other times he lay moaning and dozing. Towards midnight his disorder increased, startings about his throat were observed, his breathing became laborious, he could not speak articulately, and seemed not to perceive objects, though his eyes were open. A poultice of herbs was applied by those about him, and a secret antidote was administered internally: besides which, a Bramin performed his functions; but, finding he grew worse and worse, it was determined, after midnight, to acquaint our author with what had happened. The Tanjore medicine was prepared and sent to him, but not taken. In the morning, Dr. Russell found the hand and arm monstrously swelled; the man, however, had perfectly recovered his senses, had no fever, complained only of confusion in his head, of languor, and of pain in the arm. The bark was ordered, but a few doses only were taken. The parts about the punctures mortified first; the gangrene then spread over the back and palm of the hand, part of the wrist, laying the tendons bare, and forming an ulcer of considerable extent; which, however, healed favourably under the usual treatment. His health was restored in eight or ten days; but it was several months before he recovered the use of his hands.—This section concludes with a few observations on the experiments of *Abbé Fontana*.

The EIGHTH SECTION contains miscellaneous experiments and remarks on serpents; and the work itself ends with an explanation of two anatomical plates, representing the different appearances of the palates of innocuous and poisonous serpents, with the mechanism by which the poisoning fangs are erected in various species of venomous snakes, and also the different appearances of the poison-gland in the Cobra de Capello and Katuca Rekula Poda. F.

ART. VI. *Esquisse d'une Histoire de la Médecine et de la Chirurgie depuis leur Commencement jusqu'à nos Jours, ainsi que de leurs principaux Auteurs, Progrès, Imperfections, et Erreurs.* Traduite de l'Anglois de M. W. BLACK, M. D. par CORAY, Docteur en Médecine de l'Université de Montpellier. Octavo. pp. 443. FUCHS, Paris. 1798.

ONE of the motives which induced Dr. Coray to undertake a translation of this History, was, because the author had brought it down to the present period. The original work is here illustrated and enlarged by occasional notes, which render the narrative much more interesting; and, especially, the translator has enriched his performance with the names and improvements of various modern authors, omitted by Dr. Black. The chronological table subjoined to this translation, is also more copious and complete than the English table; although some of the names contained therein, have not a better claim to notice than those of many other writers who have been passed over in silence. W.

ART. VII. *A Treatise on scrophulous Diseases, showing the good Effects of factitious Airs; illustrated with Cases and Observations.* By CHARLES BROWN. Octavo. pp. 166. GLENDINNING, London. 1798. Price 3*s.* 6*d.*

WHEN a young practitioner assumes the office of criticising his more experienced contemporaries or predecessors, and thinks their doctrines "absurd, extravagant, fantastical, or nugatory," the world has a right to expect that his own opinions shall be founded on the basis of incontrovertible fact, and his objections couched in decent, if not respectful, language: but we are sorry to observe, that the very reverse of this is conspicuous through the whole of the author's performance.

Far be it from our design either to repress the efforts, or conceal

conceal the appearance, of rising merit, wherever it can be discerned: indeed, it gives us extreme pain to censure any publication with apparent severity. But a due regard to our public character, and to the truth, compels us to remark, that Mr. Charles Brown has chiefly distinguished himself by hypothetical notions, singularity of practice, a dogmatical style, false grammar and orthography, injudicious commendations, and illiberal reflections.

"This treatise," says the author, "is intended merely to give the outlines of a work I shall soon publish on a much larger scale:" and we assure him it will afford us sincere pleasure, to have an early opportunity of giving a more satisfactory account of his projected publication. We do not, however, comprehend upon what grounds this gentleman can hope for the approbation of his professional brethren, while he remains of opinion that "*The human species would do well, and certainly enjoy a greater share of health, if there were fewer physicians and less physic:*

"The best physicians are Doctor Diet,
Doctor Merriman, and Doctor Quiet."

Z.

ART. VIII. *An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, a Disease discovered in some of the western Counties of England, particularly Gloucestershire, and known by the Name of the Cow-Pox.* By EDWARD JENNER, M. D. F. R. S. &c. Quarto, pp. 75, with four coloured plates. LAW, London. 1798. Price 7*s.* 6*d.*

IT is rather surprising that the disease, which forms the subject of this work, should not have earlier attracted the notice of medical men. It appears to have been long known in the western counties, and has been observed by many of their inhabitants to possess the peculiar property that has induced Dr. Jenner to institute those inquiries, the result of which is laid before the public in the following statement.

"There is a disease to which the horse from his state of domestication is frequently subject: the farriers have termed it *the grease*. It is an inflammation and swelling in the heel, from which issues matter possessing properties of a very peculiar kind, which seems capable of generating a disease in the human body (after it has undergone the modification I shall presently speak of), which bears so strong a resemblance to the small-pox, that I think it highly probable it may be the source of that disease.

"In this dairy country a great number of cows are kept, and the office of milking is performed indiscriminately by men and maid servants. One of the former having been appointed to apply dressings to the heels of a horse affected with *the grease*, and not paying due attention to cleanliness, incautiously bears his part in milking the cows, with some particles of the infectious matter adhering to his fingers. When this is the case, it commonly happens that a disease is communicated to the cows, and from the cows to the dairy-maids, which spreads through the farm, until most of the cattle and domestics feel its unpleasant consequences. This disease has obtained the name of the Cow-pox. It appears on the nipples of the cows in the form of irregular pustules. At their first appearance they are commonly of a palish blue, or rather of a colour somewhat approaching to livid, and are surrounded by an erysipelatous inflammation. These pustules, unless a timely remedy be applied, frequently degenerate into phagedenic ulcers, which prove extremely troublesome *. The animals become indisposed, and the secretion of milk is much lessened. Inflamed spots now begin to appear on different parts of the hands of the domestics employed in milking, and sometimes on the

* "They who attend sick cattle in this country find a speedy remedy for stopping the progress of this complaint in those applications which act chemically upon the morbid matter, such as the solutions of the vitriolum zinci, the vitriolum cupri, &c."

wrists,

wrists, which quickly run on to suppuration, first assuming the appearance of the small vesications produced by a burn. Most commonly they appear about the joints of the fingers, and at their extremities: but whatever parts are affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distantly approaching to blue. Absorption takes place, and tumours appear on each axilla. The system becomes affected;—the pulse is quickened, and shiverings, with general lassitude and pains about the loins and limbs, with vomiting, come on. The head is painful, and the patient is now and then even affected with delirium. These symptoms, varying in their degrees of violence, generally continue from one day to three or four, leaving ulcerated sores about the hands, which, from the sensibility of the parts, are very troublesome, and commonly heal slowly, frequently becoming phagedenic, like those from whence they sprung. The lips, nostrils, eye-lids, and other parts of the body, are sometimes affected with sores; but these evidently arise from their being needlessly rubbed and scratched with the patients' infected fingers. No eruptions on the skin have followed the decline of the feverish symptoms in any instance that has come under my inspection, one only excepted; and in this case a very few appeared on the arms: they were very minute, of a vivid red colour, and soon died away without advancing to maturation; so that I cannot determine whether they had any connexion with the preceding symptoms.

"Thus the disease makes its progress from the horse to the nipple of the cow, and from the cow to the human subject.

"Morbid matter of various kinds, when absorbed into the system, may produce effects in some degree similar; but what renders the cow-pox virus so extremely singular is, that the person who has been thus affected is for ever after

secure

secure from the infection of the small-pox; neither exposure to the variolous effluvia, nor the insertion of the matter into the skin, producing this distemper."

Dr. Jenner, however, warns his readers, "that pustulous sores frequently appear spontaneously on the nipples of cows, and instances have occurred, though very rarely, of the hands of the servants employed in milking being affected with sores in consequence, and even of their feeling an indisposition from absorption. These pustules are of a much milder nature than those which arise from that contagion which constitutes the true cow-pox. They are always free from the bluish or livid tint, so conspicuous in the pustules in that disease. No erysipelas attends them, nor do they show any phagedenic disposition as in the other case, but quickly terminate in a scab, without creating any apparent disorder in the cow, and are incapable of producing any specific effects upon the human constitution. It is of the greatest importance to point this out, lest the want of discrimination should occasion an idea of security from the infection of the small-pox, which might prove delusive."

A great variety of cases are then related, which concur to establish Dr. Jenner's position. From these it appears, that the symptoms produced by the cow-pox virus are much slighter when it is inoculated by a puncture, than when received in the casual manner above described. But Dr. J. nevertheless conceives the security from variolous infection to be equal in both cases. The cow-pox is not known to excite any other disease, nor is it ever attended with danger to the life of the patient: it may, however, happen repeatedly to the same person; and it is worthy of remark, that the small-pox does not render the constitution insensible to the cow-pox, although the cow-pox may render it insensible to the small-pox. It is also to be observed, that the mere local affection from the cow-pox virus is not sufficient for this purpose, except the specific fever be also produced.

In

In order the more accurately to observe the progress of the infection, Dr. Jenner selected a healthy boy, about eight years old, for the purpose of inoculating him. The vaccine matter was taken from a sore on the hand of a dairy-maid, who had been infected by her master's cows; and it was inserted, on the 14th of May 1796, into the arm of the boy, by two very superficial incisions, each about half an inch long. "On the seventh day he complained of uneasiness in the axilla; and on the ninth he became a little chilly, lost his appetite, and had a slight headach. During the whole of this day he was perceptibly indisposed, and spent the night with some degree of restlessness; but on the day following he was perfectly well.—The appearance of the incisions in their progress to a state of maturation were much the same as when produced in a similar manner by variolous matter. The only difference I perceived," says the author, "was in the state of the limpid fluid arising from the action of the virus, which assumed rather a darker hue; and in that of the efflorescence spreading round the incisions, which had more of an erysipelatous look than we commonly perceive when variolous matter has been made use of in the same manner: but the whole died away, leaving on the inoculated parts scabs and subsequent eschars, without giving me or my patient the least trouble."

This boy was afterwards very carefully inoculated *twice* with the small-pox matter, a space of some months intervening, without being affected with the disease; whence Dr. J. concludes, that he is perfectly secure from the variolous contagion.

The author does not think the vaccine disease can be propagated by effluvia, or by mere contact, except the matter be applied to a surface destitute of cuticle; a circumstance, which, if it be established, will prove greatly in favour of the practice he has recommended, of inoculating the cow-

pox as a preventive of the small-pox. On the whole, Dr. J. deserves great praise for the trouble he has taken; and, as the attention of professional men is now excited to the further investigation of this subject, we have no doubt that benefit will accrue to the public. S.

ART. IX. *An Inquiry concerning the History of the Cow-Pox, principally with a View to supersede and extinguish the Small-Pox.* By GEORGE PEARSON, M. D. F. R. S. Physician to St. George's Hospital; of the College of Physicians. Octavo, pp. 116. JOHNSON, London. 1798. Price 2*s.* 6*d.*

DR. PEARSON has here recapitulated the sum of his own and of Dr. Jenner's observations on this disease, in the nine following particulars; to illustrate which, he has brought forward a valuable body of evidence, collected from the communications of many respectable gentlemen.

"I. Persons who have undergone the specific fever and local disease, occasioned by the cow-pox infection, communicated in the accidental way (who had not undergone the small-pox), are thereby rendered unsusceptible of the small-pox.

"II. Persons who have been affected with the specific fever, and peculiar local disease, by inoculation of the cow-pox infection, who had not previously undergone the small-pox, are thereby rendered unsusceptible of the small-pox.

"III. The disease produced by inoculating with the matter of the cow-pox, does not differ from the disease produced by inoculation with the matter from the human animal; nor is any difference observed in the effects of the matter from the first human subject infected from the brute animal, or from the matter generated, successively, in the second,

second, third, fourth, or fifth human creature, from its origin in the brute.

"IV. A person having been affected with the specific fever and local disease, produced by the cow-pox poison, is liable to be again affected as before by the same poison; and yet such person is not susceptible of the small-pox.

"V. A person is susceptible of the cow-pox, who has antecedently been affected with the small-pox.

"VI. The cow-pox is not communicated in the state of effluvia, or gas; nor by adhering to the skin, in an imperceptibly small quantity; nor scarce unless it be applied to divisions of the skin, by abrasions, punctures, wounds, &c.

"VII. The local affection in the cow-pox, produced in the casual way, is generally more severe, and of longer duration than usually happens in the local affection in the inoculated small-pox; but in the cow-pox the fever is in no case attended with symptoms which denote danger, nor has it, in any instance, been known to prove mortal.

"VIII. No consequential disease, which should be attributed to the cow-pox, has been observed; nor has any disease been excited, to which there previously existed a disposition; nor has it been discovered to produce a pre-disposition to particular diseases.

"IX. The cow-pox infection may produce the peculiar local disease belonging to it, but without the disorder of the constitution; in which case, the constitution is liable to be infected by the small-pox infection."

The author then proceeds to point out the great advantages which may arise from this discovery; and concludes his pamphlet with the following list of queries, for the assistance of those who may be inclined to prosecute the inquiry by a series of experiments.

"*With respect to Brutes.*

"1. If a distemper of cows has been noticed, called the Cow-pox, or by any other name; in which the breasts,

especially the paps, are affected with pustulous, and generally purple, or livid eruptions and sores, by which the hands of milkers are affected; what are its symptoms?

"2. Can any connexion be traced betwixt this disease and the grease of horses' heels*? between the disease and particular kinds of food, and water? between it and any particular states of the atmosphere? between it and any particular season?

"3. Is the same cow liable to the disease more than once?

"4. Has any cow ever appeared to die of this disease?

"5. Is the cow susceptible of the cow-pox, by the inoculation of the breasts with grease matter of horses?

"6. Are males of the ox kind, or other different kinds of brutes, susceptible of the disease by inoculation with cow-pox matter of cows?

"7. Have cows, in a state of pregnancy, been observed to be affected with this distemper?

"8. Is the cow susceptible of the disease by inoculation of other parts beside the breasts?

"9. Is the cow-pox matter of human creatures capable of producing the cow-pox in cows?

"*With respect to human Creatures.*

"1. What parts are affected, and what are the symptoms of the distemper, when contracted in the casual way?

"2. Has any person been supposed to be in danger, or to have died of this disease?

"3. Is the whole constitution disordered *previously*, or *only at the same time* the pustules break out? Does the disorder of the constitution disappear on the appearance of the pustules? Does the same, or a different disorder of the con-

* This connexion Dr. P. is very much inclined to doubt, and says, "his own inquiries to find this origin of the cow-pox have been successless."—*Vide page* 83, *& seq.*

stitution again appear; and under what circumstances, in the course of the disease?

"4. If, in the course of the disease, when there is no disorder of the whole constitution, the infectious matter of the cow, or of the human patient already labouring under the cow-pox, be applied to fresh parts, does a disorder of the whole constitution arise, as well as a local affection; and of the same kind as those which have already taken place?

"5. Is the same person susceptible of the cow-pox local affection, and fever, or disorder of the whole constitution, more than once? or only of the local affection more than once? In the instances in which the disorder of the whole constitution was said to have occurred more than once, is it not probable that in one case only the specific fever of the infection occurred, and in the others, a different disorder of the whole constitution, such as was merely from the irritation of the local affection?

"6. Is the local affection of the same nature on a second, or on farther attacks in the same person, as on the first?

"7. In the instances of cow-pox in persons who had gone through the small-pox, were the local affection and disorder of the constitution of the same nature as in persons who had not laboured under the small-pox?

"8. Has it been observed that a person has ever taken the small-pox, after having gone through the cow-pox? In the instances in which the small-pox was said to have taken place, was it certain that the preceding cow-pox was attended with its specific fever; or was there only a local affection, or at most, was there only disorder symptomatic of the local affection?

"9. Does the cow-pox render the human constitution unsusceptible of any other disease, beside the small-pox; or, on the contrary, increase its susceptibility to any particular diseases?

"10. What

" 10. What are the effects of the cow-pox on pregnant women?

" 11. In the inoculated cow-pox, is the fever less considerable than in the casual way?

" 12. In the inoculated cow-pox, is the local affection slighter and of shorter duration than in the casual cow-pox?

" 13. How long after the insertion of the matter is it before the constitution is affected?

" 14. If a person were to be inoculated at the same time with the cow-pox and variolous matter, which disorder would appear first, or what other effects would be produced?

" 15. If the cow-pox morbific matter be applied to a secreting membrane, *e. g.* to the urethra, will it produce a gonorrhœa, or pustulous sores?

" 16. Does this disease appear to injure the constitution, by producing or exciting other diseases?

" 17. Does this disease appear to eradicate any other diseases already present?

" 18. Does the mildness or severity of the inoculated cow-pox depend upon the quantity of matter inserted; or on the wounds inflicted for inoculation?

" 19. Does the cow-pox matter produce the disease as certainly in its dried as in its fluid state, and when old as when recent, and with equal mildness?

" 20. Are there any particular states of the constitution in which the cow-pox is particularly mild, or, on the contrary, severe, as after the measles, hooping-cough, &c.?

" 21. Are there particular idiosyncrasies in families or individuals, which influence the cow-pox, as is the case in the small-pox?

" 22. Is the inoculation of the cow-pox equally successful in infancy, manhood, and decrepit age?

" 23. Do certain epidemic states appear to prevail, which influence this disease?

"Answers to the preceding questions will be principally obtained by inoculation for the cow-pox, of which there are many opportunities in provincial situations."

Among our MEDICAL REPORTS for the present month, will be found the copy of a letter on this subject, with which we were lately favoured by Dr. Pearson; and farther evidence will speedily be laid before the reader, in our account of several recent publications. Q.

ART. X. *Handbuch der Praktischen Arzneikunst*, &c.; *i. e.* A Compendium of the Practice of Physic: by D. H. W. LINDEMANN, Physician in Lowitz, South Prussia. HIMBURG, Berlin, 1797. Octavo, pp. 638.

THIS compendium is acknowledged by Dr. Lindemann to be little else than a free translation of various parts selected from Brendel's *Prælectiones de cognoscendis et curandis Morbis*; which, from the valuable practical remarks they contained, appeared to him deserving of being made more generally useful.

The work, as it is presented to the public, contains a concise description of almost every general and local disease to which mankind is exposed; together with an account of the principal remedies and modes of practice which Brendel recommended and employed for the cure of them.

In regard to the work, we feel it our duty, as impartial reviewers, to state that, although the histories of the diseases which it presents us with be generally correct as far as they go, yet they are too short to be satisfactory; and the practice proposed, although generally judicious, is in many points greatly behind what the late improvements in medicine entitle us to expect. When the author speaks of the immediate causes of disease, or attempts to account for

the operation of the more remote ones, he glides into weak and crude hypotheses, which almost all spring from the Boerhaavian doctrines; but, to do both the author and the editor justice, they seldom indulge much in speculation concerning the nature of diseases.

As this work exhibits a very good view of what may be considered as the present practice of a great number of physicians of Germany, we think it will be gratifying to our readers if we lay before them an account of the remedies recommended for the principal diseases of which it treats.

Synochus imputris, febris ardens. The cure of this fever is to be conducted upon the four following general indications: 1st, To moderate excessive heat; 2dly, to diminish the dryness of the skin; 3dly, to dissolve the strong coagulability of the blood; 4thly, to employ gentle diaphoretic and diuretic remedies. The two first of these indications are to be fulfilled by blood-letting, cooling laxative glysters, and antiphlogistic remedies, such as the following: ℞ Nitri depurat. ʒiij. Solve in decoct. rad. gramin. ℥viij. Adde mellis opt. ʒiij. Sumat. coch. unum omni horâ. Should this purge, let nitre be exhibited, in the form of a powder, with gum Arabic or althea root, and sugar. Spt. Mindereri, camphor, and an emulsion made with the seeds of the white poppy, are also recommended. Lastly, the seneka is to be given to complete the cure.

Synochus biliosa. 1st, If it be of the inflammatory kind: blood-letting, Riverius' draught, and tamarind whey for common drink. 2dly, If it be of the nervous kind: blisters, the tepid bath, and opium. If there be symptoms which announce the presence of bile in the stomach: antimonial emetics, and gentle laxatives composed of tamarinds and cream of tartar, are to be exhibited. These evacuations are not to be repeated unless there be absolute necessity for them, but rather trust to diluents and antispasmodics. The Spt. Mindereri and Peruvian bark complete the cure.

Febris

Febris catarrhalis. Plenty of mucilaginous drinks, such as gruel and oxymel simplex; and the following remedies to allay the fever and cough: ℞ Sal. ammoniac. ʒiij, Aq. benedict. Ruland. (Vin. antimon.) ʒj, Infus. flor. sambuc. ℥viij, Succ. glycirrhiz. ʒfs. Sumat. coch. j omni horâ. ℞ Syr. papav. alb.—de altheâ āā ʒij, Spt. sal. dulc. ʒj. *Dosis* coch. j omni horâ. When the fever abates, and the expectorations continue to be difficult, the Decoct. senekæ and Oxymel scillæ are recommended.

Quotidian Fever. Emetics, purges, Sål ammoniac, and bark.

Tertian Fever. In this fever the Sal ammoniac is more strongly recommended than in the quotidian, on account of the greater quantity of pituitous matter with which the intestines, according to the opinion of the author, are loaded. ℞ Inf. flor. chamomæl. ℥viij, Sal. ammoniac. Ext. trifol. febrin. āā ʒiij, Syr. cort. aurantii ʒi. M. Of this, half a cupful is to be taken every two hours during the state of apyrexia. If the tertian be likely to degenerate into the acute fever, a mixture of Glauber's salts and Sal ammoniac is recommended; if, on the other hand, it be likely to become chronic, a warm purge is ordered, such as a mixture of aloes and rhubarb. After the *primæ viæ* have been cleared by these means, one drachm of bark is to be given every two hours, drinking a cupful of whey made with Hock, to which a little crude Sal ammoniac is to be added. If the bark in substance does not sit easy on the stomach, the following formula is strongly recommended: ℞ Pulv. cort. Peruv. ℔fs, Aquæ Pyrmontanæ ℔iv. Decoque ad remanentiam tertiæ partis. Hæc probe colata sine expressione ad consistentiam syrupi liquidioris, leniter in balneo mariæ exhalatur; dein adde Spt. sal. dulc. vel Liquor. anod. Hoffm. ℥ij. Of this any quantity may be ordered, and a tablespoonful taken often.

If, upon taking the bark, the patient's strength and healthy

colour of countenance do not return, and he is troubled with heat of skin, thirst, loss of appetite, and voids a red muddy urine, a relapse is to be dreaded. In this case, emetics, purges, and sal ammoniac, and afterwards the bark, are again to be given.

In speaking of *Quartan Fever*, the author takes notice of visceral obstruction as a common cause of the obstinacy of this fever. In such cases, the visceral glysters recommended by Kaempfe, together with one of the following remedies: ℞ Sulphur. aur. ant. gr ij, Pulv. herb. Cicutæ gr vji—Rad. Rhæi ʒß. M. Disp. dos. xij. Of which three are at first to be taken daily, and afterwards five or six.

℞ Æthiop. antimon. gr vj-x, Sacchar. alb. ʒj. M. Disp. dos. xij, of which three are to be taken every day.

After the author has given general directions concerning the treatment of fevers, he passes to the consideration of the more distressing symptoms which accompany these diseases, sush as costiveness, diarrhœa, delirium, and flatulency, &c.

Inflammatory Diseases next occupy the attention of the author. We are astonished to find him here confounding under the vague and general term *angina*, every inflammatory affection of the throat and trachea which occasions difficulty of breathing, such as cynanche tonsillaris, cynanche trachealis, and cynanche pharyngea.

The inflammation of the lungs, he divides into *Pleuritis-peripneumonia* and *Pleuro-peripneumonia*. The first is the inflammation of the pleura, the second of the substance of the lungs. His practice in these complaints is that which is commonly followed; and consists in blood-letting, laxatives, cooling salts, blisters, or cataplasms of mustard, with antiphlogistic, diluting, and mucilaginous drinks. Nitre, and the Seneka in decoction, with antimonial wine, are praised by him.

Hepatitis. We were astonished at finding the author recom-

recommending an emetic in the beginning of this complaint; for, if there be any remedy likely to increase the inflammation of the liver, it is this. He is averse to general blood-letting, but desires leeches to be applied to the right hypochondrium and verge of the anus. Calomel and rhubarb are recommended as purgatives, and sal ammoniac and camphor as resolvents. He also advises mercurial ointment to be applied externally to the region of the liver, and mercury to be taken internally at the same time. The first of these methods of introducing quicksilver is extremely injurious to patients, inasmuch as the friction on the region of the liver constantly produces much pain and augmentation of the inflammation. The mercurial ointment is doubtless a very good remedy in this disease, but it ought always to be rubbed into the thigh, or arm, or leg.

The treatment of the other diseases belonging to the order Phlegmasiæ, is exactly similar to that which is generally practised.

EXANTHEMATA.

1. *Morbilli.* The treatment recommended by the author for the cure of measles is very judicious, but not being different from that which is commonly practised, we pass it over.

2. *Erysipelas.* When it is symptomatic of bile, disordering the *primæ viæ*, which, it would appear, frequently occurs among the Germans, the cure is to be accomplished by means of emetics, gentle purgatives, and mild diaphoretics, such as the Aq. ammon. acet. with a decoction of elder-flowers; and lastly, the vitriolic acid is to be given. When the disease attacks the head, blood-letting is to be employed; then an emetic, and afterwards a purge, are to be exhibited; and these are to be repeated as circumstances require.

3. *Variolæ.* In the distinct, as well as in confluent small-pox, the character and degree of the fever are the circumstances which are to regulate the mode of cure. Epileptic fits, which

which usher in the complaint, are to be cured and prevented by the warm bath, by musk, and syrup of poppies. During the eruption, five emetics, and purges with calomel, and small doses of antimonial wine. In the suppurative stage, plenty of diluents, with aperient and emollient glysters. As soon as the pustules begin to grow dry, gentle purges of calomel and rhubarb are directed to be given.

In the case of the putrid small-pox, chamomile and Virginian snake-root, together with camphor, and the bark and mineral acids, are praised by the author.

Chronic Rheumatism. The indications of cure are two in number:

1. To resolve the stagnating incrassated morbific matter in the parts which suffer pain.

2. To expel them by means of diaphoretic remedies.

Both these indications may be fulfilled by the same remedies. Antimonials, certain gums, such as gummi guaiacum, ammoniacum, and assafœtida, the dulcamara, belladonna, aconitum, valerian, arnica, the volatile alcali soap, and the decoction of lapatho acuto, and rad. bardanæ.

The following singular compound is prescribed by the author: ℞ Assafœtid. Gummi guaiaci, Extract. dulcamaræ, āā ʒiij, Ext. arnicæ montan.—Aconit. āā ʒj, Sulph. aur. antimonii præcipit. ℈j. f. c. s. q. Elixir. proprietat. pil. pond. gr ij. Of these pills eight are to be taken for a dose, and their number is to be gradually increased.

The external remedies recommended by the author, are such as are generally allowed to be useful;—frictions, with or without volatile liniment, mercurial ointment combined with camphor, the application of oiled or waxed silk setons and issues, with baths containing sulphur, the moxa, dry cupping, and cupping with scarifying are also spoken of as serviceable. L.

(To be continued in our next Number.)

Art.

ART. XI. *Krankenbuch. Ueber die Erhaltung des menschlichen Lebens, Verhütung und zweckmæssige Behandlung der Krankheiten: i. e.* A Book for Valetudinarians; on the Preservation of Human Life, the Prevention and rational Treatment of Diseases. By Dr. CHRISTIAN AUGUSTUS STRUVE. Vol. I. Octavo, pp. 470. KORN, Sen. Breslaw. 1798.

THIS methodical compendium is chiefly intended for the superior ranks of life, and therefore differs from the majority of popular books on medicine. The introduction opens with a definition and description of an healthy state: the morbid condition of the human frame is next considered in a general manner, and is subdivided into classes and orders. Here the author has endeavoured to avoid all technical phrases, and has rendered this part of his subject as intelligible as the rest. Dr. Struve then dilates on the importance, extent, and nature of the medical art, its difference from surgery, and its progress in modern times.

The fourth part of the introduction points out the characteristic qualities of a good physician, and lays down useful precepts for the conduct of patients toward their physician in ordinary. Dr. Struve here gives a singular piece of advice, which, we hope, is less needful in this country than in Germany. He says, "A person who employs another practitioner, or an empiric, beside his ordinary physician, shows a total ignorance of the value of life: he would be exciting an intestine commotion within himself, by their different methods operating in contrariety to each other. Let him who loves his health employ but one physician, in whom he may place his whole confidence. The state of the patient will be aggravated in proportion to the number of his physicians, since each of them pursues his own plan: they will either unite, and prepare a whimsical medley of remedies, as contrary

trary to each other as their several opinions; or, if one physician be appointed to act alone, the most skilful will usually retire." The author next gives a suitable caution against every species of quackery, in which he very pathetically laments the astonishing progress of empiricism during the present age.—The last part of the introduction takes a general view of remedies, their nature, their use, and abuse; likewise the danger of employing them without proper advice, and the absurdity of proposing universal medicines, &c.

The body of this volume is divided into eleven sections.—In the *first*, the causes of common diseases are considered, under the following heads: 1. Hereditability. Dr. Struve suggests, that morbid dispositions and debility are propagated by generation, rather than particular diseases; although he mentions instances of several diseases, which seem to descend unaltered from the parents to their offspring; and in support of this opinion he adduces, among other authorities, that of RICHTER, with respect to hereditary hernia.—2. Defective physical education: he here gives an abstract from the work which has been noticed in our last number.—3. Respiration of impure air.—4. Immoderate and unwholesome food.—5. Modes of dressing which are contrary to health.—6. Uncleanliness.—7. A sedentary life, or want of exercise.—8. Unwholesome attitudes.—9. Heat and cold.—10. Idleness.—11. Immoderate bodily exertion.—12. Immoderate exercise of the intellectual faculties.—13. Violent passions.—14. Excess of pleasure.—15. Contagion: the author thinks that the phenomena of contagion have not been sufficiently investigated; he considers debility and irritability of the body, and a dejected mind, as the principal causes which induce every species of contagious infection.—16. Poisons: under this head we find useful cautions against various substances, to the deleterious effects of

which we are daily exposed; among these are mentioned certain febrifuge drops, containing arsenic, by which empirics quickly perform an apparent cure.

The SECOND SECTION indicates the general means of preventing disease, and is subdivided like the former. In that part which regards the prevention of contagious infection, the author, in a note, advises those who attend sick cattle not to administer the medicines with a naked hand, and those who are employed in removing dead cattle to besmear their faces and hands with oil, in order to guard themselves against the bite of those insects, which might have imbibed the morbid juices of the dead animals. This section is concluded with instructions concerning preventatives, particularly the folly of using them without necessity; it also treats on the improper choice of mineral waters, and bathing.

The subject of the THIRD SECTION, is the various morbid dispositions.—1. The general means of discerning them. —2. An inquiry into the peculiar dispositions to certain diseases; as hypochondriasis, gout, hæmorrhois, hæmorrhages, consumption, &c. —3. Some characters of latent morbid dispositions, or a doubtful state of health.

In the FOURTH SECTION, the forerunners of illness, and the conduct to be pursued at the approach of disease, are considered.

The FIFTH, treats of the best diet for patients, according to the various disorders under which they labour. In this section, the muriatic acid gas is recommended by Dr. Struve, as the best mean for purifying rooms which have been infected by contagious diseases.

The SIXTH SECTION, on the management and conversation of patients, contains general observations on the conduct of persons who attend the sick, with regard to their passions and the admission of visitors. The death of RABENER, a celebrated writer of satires, is thus related: "Death cannot be announced with too much precaution to

the patient. RABENER desired a friend to bring a clergyman to him, as soon as the physician should declare him past recovery; he was already in a fair way of convalescence, when his friend, having forgot this injunction, accidentally met with a clergyman in the street, whom he desired to visit RABENER: the patient at the sight of this visitor was so violently terrified, that he could not be dissuaded from believing his life was despaired of, and that circumstance indeed occasioned his death."—This division concludes with rules for those who attend the sick, in regard to the preservation of their own health, and instructions concerning the regular administration of various kinds of medicine.

The SEVENTH SECTION is devoted to observations on the state of patients, and is intended to instruct common observers in the mode of giving a proper history of every case; it also contains a table of questions to be answered in every regular account given to the physician in the absence of the patient.

The EIGHTH SECTION relates to the conduct of convalescents.

The NINTH regards the treatment of dying people.

In the TENTH, our author dwells upon the dangers of deception from apparent death, and relates several instances. We select the following as very remarkable: "A woman, nearly forty years old, was deprived of all her senses by an apoplectic fit; during the first days, the only observable sign of life was a stertor, which subsided on the eleventh day. In cases like this there is no effect to be expected, but from the most powerful stimuli: and it is no cruelty to apply them to persons in a state of apparent death; for a red hot iron is not more painful to them than the pricking of a pin to a healthy subject. This patient's hair was cut off on the crown of her head, and an hole was burnt down to the cranium with a red-hot iron, which was applied twice without producing any apparent sensation: on the third application,

plication, she carried her hand upon the head with a shriek, and fell again into a swoon, which lasted little less than an hour; after which she opened her eyes, recovered her senses gradually, and was restored to health in the course of three weeks. This person had been constantly afflicted with hysteria, during eight years previous to that attack." The author thinks that there is no infallible proof of real death but putrefaction; and cautions particularly against apparent death, in cases where animation has been suspended after a very short illness, or quite suddenly: he mentions a recent instance of a man who had been struck by lightning and recovered from an apparent death three days after the accident, when he was going to be interred. Dr. Struve refers his readers for the treatment of people apparently dead, to another work of his own on that particular subject. He concludes with an injunction to keep the bodies of the deceased in a moderate temperature, and to wait for symptoms of putrefaction before they are consigned to the grave.

In the LAST SECTION, our author points out the advantages of opening dead bodies, and refutes prevailing prejudices on that subject.

In the second volume, which is not yet published, the author proposes to treat on diseases in particular, and invites valetudinarians of every description to attend to his instructions. We hope the remaining part of the work will excel the present specimen in typographical accuracy. V. A.

ART. XII. *Storia Naturale di un nuovo Insetto,* di RANIERI GERBI: *i. e.* The Natural History of a new Insect, &c. Florence. 1794. Octavo. (Vid. Phil. Mag. N° V.)

THE insect here described by the Professor is a species of *Curculio,* which, from the property it is said to possess of curing the tooth-ach, has received the epithet of ANTIODON-

TALGICUS. It is found upon a species of thistle, *carduus spinosissimus*, of which a figure is also given.

This insect is of a longish figure; covered below with short yellow hair, and above with golden yellow velvety spots. Its corslet is variegated with specks; and the covering of its wings with specks and stripes. It has a short proboscis, and shows some likeness to the *curculio villosus* of Geoffroy. Its larva represents a sort of ichneumon. By chemical analysis it exhibits some traces of common salt; by distillation with a strong dry heat, some volatile lixivious salts; and it contains, besides these, some gelatinous, and a little sebaceous and slimy extractive matter. If about a dozen or fifteen of these insects, when in the state of larva, or even when come to perfection, be bruised and rubbed slowly between the fore-finger and thumb until they have lost their moisture, and if the painful tooth, where it is hollow, be touched with that finger, the pain ceases sometimes instantaneously. It is said, that the finger will retain this power or property for a year, even though it be often washed and used. A piece of shamoy leather will serve equally well with the finger. Of 629 experiments, 401 were attended with complete success. In two of these cases the hollow teeth arose from some disease of the fluids: in the rest they were merely local.

If the gums be inflamed, the remedy is of no avail. According to Professor Gerbi, the hollowness in the teeth arises from an acrid matter which irritates the nerves, and which is neutralized by the juices of the insect.

This property of curing the tooth-ach has been discovered in other insects, as appears by a paper of Dr. Carradori, inserted in the *Giornali fisico-medico* of Brugnatelli, Part I. The experiments were made in the town of Prato, where the property of some insects to cure the tooth-ach had been known among the peasants, even before any thing was published on the subject by Gerbi and Comparini. A certain

Luigi

Luigi Mari is here made to assert, that he laid hold of about a dozen of these insects with his fingers, and heaped them over each other, by which means his fingers, for a whole year, though he daily washed his hands, were endowed with the property of curing the tooth-ach, by merely touching the affected tooth ! !

The author of the letter affirms, that the following method will always afford relief: The insect described by Rossi in his *Fauna Etrusca*, under the name of *carabus chrysocephalus*, is to be held for some minutes between the thumb and fore-finger; the diseased tooth and the gums are to be afterwards touched with that finger. If the pain does not cease on the first touching, the finger is to be well dried, and must be applied to the insect again, and then to the tooth; this process is to be continued alternately till the pain ceases entirely. M. Cypriani asserts, that he cured every case of the tooth-ach, without exception, by this method, within the space of eight or nine minutes.

More insects possess the like property, and experiments made with the following were equally successful: The *carabus ferrugineus* of Fabricius; the *coccinella septem punctata* (or lady-bird); *chrysomela populi*, and the *chrysomela sanguinolenta*. It would appear also that this property belongs to various kinds of the *coleoptera*.

The idea of these insects being endowed with the property of curing the tooth-ach is not confined to Italy; for Mr. Hirsch, dentist to the court of Weimar, asserts (*Verkundiger*, September 24, 1798), that he employed them with the happiest effect, except in some cases where his patients were females. He says, that he took that small insect, found commonly among corn, *coccinella septem punctata*, and bruised it between his fingers: he then rubbed the fingers with which he had bruised it till they became warm at the points, and touched with them the unsound parts of the gums, as well as the diseased tooth. Dr. Hirsch adds,

that

that he made the same experiment a few days after with equal success, though he had not bruised a new insect with his fingers. He seems to think (though the other authors we have quoted do not mention this circumstance) that, to insure the efficacy of the process, the insect should be alive; because when dead, its internal parts, in which he presumes the virtue chiefly resides, become dried up, leaving only the wings and an empty shell: he, therefore, proposes to physicians, to turn their attention to the finding out of some method for preserving the virtue of this insect, so that its efficacy may be in full vigour throughout the year. G.

ART. XIII. *Nosographie Philosophique, ou la Méthode de l'Analyse appliquée à la Médecine.* Par PH. PINEL, Médecin de l'Hospice national de la Salpêtrière, et Professeur à l'Ecole de Médecine de Paris: *i. e.* Philosophical Nosography; or, the Analytical Method applied to Medicine, &c. 2 tom. Octavo. MARADAN, Paris, An VI. (1798). Imported by DE BOFFE. Price 12*s.*

THE author of this work has strongly inveighed against former nosologists, for not having sufficiently followed the analytical method in their classification and definition of diseases. He thinks they have all been under the dominion of some favourite theory or other, which has prevented them from observing nature with that care and impartiality which was necessary. He has therefore undertaken to reform this branch of medical learning, and imagines he has analysed diseases more exactly than any of his predecessors.

We are, however, of opinion, that Dr. Pinel's arrangement has not those advantages to recommend it, which he himself has conceived; and that it will be found as much clogged with *theory*, as those which of late have been more generally adopted. It will be observed, in particular, that

theory

theory pervades his whole account of fevers, and that his denomination of the six orders of simple febrile disease, which, either singly, or in combination with each other, he supposes to form every species of fever which exists, is on this very account liable to great objections.

Dr. Pinel considers all fevers as reducible to the six following ORDERS: 1. *Angio-tenic;* characterized by a constant irritation on the coats of the sanguiferous vessels:—2. *Meningo-gastric;* the original seat of which is in the membranous coat of the stomach, duodenum, and their appendages:—3. *Adeno-meningeal;* whose symptoms indicate an irritation of the mucous membranes lining certain cavities:—4. *Adynamic;* which consist in an atonic state of all the muscular fibres:—5. *Ataxic;* which show some injury done to the nervous principle, by a physical or moral cause:—6. *Adeno-nervous;* in which some contagious and poisonous principle has exerted its virulence on the nerves and glands, as we see in the plague of the Levant.

It must be obvious to every one, that an atonic state of the muscular fibre is so common an attendant on fevers of different kinds, that whoever takes his denomination of the disease from this character alone, will be liable to considerable errors in his descriptions, and to still greater in his practice. Hence the descriptions which Dr. Pinel has given, oblige him frequently to have recourse to a supposed combination of this with the other orders of fever, that he may allow a place in his system for diseases already on record. We do not think this a very likely method to facilitate the study of medicine.

The style of Dr. Pinel is very abrupt; but, nevertheless, is composed of periods excessively long and fatiguing to the reader. The solid information to be collected from this work is almost buried under a load of pedantic exclamations, and terms rather calculated to embarrass than assist the student. It is, however, by no means destitute of original

merit, and must have cost the learned author a great deal of labour and study.

Internal diseases, or at least such as Dr. Pinel thinks come properly under the care of the physician, rather than of the surgeon, are all he has enumerated.—We shall subjoin the following view of the manner in which he has arranged them, and the analysis he has given of the different genera comprehended in the two first classes.

CLASS I.—FEVERS.

ORDER I. ANGIO-TENIC. (The inflammatory of authors.)

Genus 1st. *Angio-tenic.* (Simple synocha.) Fever continual, and without remission; face flushed; heat, with perspiration.

ORDER II. MENINGO-GASTRIC. (Bilious.)

Genus 2d. *Continued meningo-gastric fever.* Pain in the region of the stomach; a whitish crust on the tongue; bitter taste in the mouth; violent headach.

Genus 3d. *Remittent meningo-gastric.* The same symptoms as the former, with the attack of intermittent fever.

Genus 4th. *Mild tertian.* Its distinctive character is easily detected; it is the most common of intermittent fevers.

ORDER III. ADENO-MENINGEAL. (Pituitous.)

Genus 5th. *Continued adeno-meningeal.* The patient is cool, and without much fever in the day-time; the nights are restless; but the progress of the symptoms is slow.

Genus 6th. *Quotidian intermittent.* The febrile paroxysm daily returning at night, or early in the morning; debility; and paleness of the countenance.

Genus 7th. *Quartan intermittent.* Two days of apyrexia; the paroxysm returning towards evening; the heat which succeeds the cold stage increasing slowly.

Genus 8th. *Remittent adeno-meningeal.* This has many characters of the continued adeno-meningeal, with intermitting febrile paroxysms.

ORDER

Order IV. Adynamic. (Putrid.)

Genus 9th. *Continued adynamic.* Characterized by alteration of the countenance, more or less of deliriúm, and prostration of strength.

Genus 10th. *Remittent adynamic.* The author has no doubt of the existence of this fever, but observes, *qu'il y a encore une lacune a remplir pour la détermination de ses caractères génériques*; the examples being too few to build a definition upon them.

Order V. Ataxic. (Malignant.)

Genus 11th. *Sporadic ataxic.* Variable nervous affections; pulse weak and depressed; with a comatose state at intervals.

Genus 12th. *Contagious ataxic.* Vertigo; an appearance of consternation, sometimes beginning like an inflammatory fever, at other times with great prostration of strength.

Genus 13th. *Low nervous.* Pulse often little altered from its natural state; drowsiness; with a slow advance of nervous symptoms.

Genus 14th. *Remittent* or *intermittent ataxic.* Insensibility during the attack, mostly owing to a comatose affection, or some very dangerous nervous symptom.

Order VI. Adeno-nervous. (Plague of the Levant.)

Genus 15th. *Pestilential fever*, or *plague of the Levant.* It sometimes begins with the appearance of inflammatory fever; at others with stupor; buboes and carbuncles. Its progress is very rapid.

Class II.—Phlegmasiæ. (Inflammations.)

In the preliminary observations on this class, the author makes many judicious and instructive remarks.

Order I. Phlegmasiæ of mucous membranes. (Under this order are comprehended catarrhal diseases.)

Genus 16th. *Simple catarrh.* A painful sensation of weight in the head, heat in the nostrils and fauces, cough, &c.

Genus 17th. *Simple dysentery.* Tenesmus, white or bloody mucous stools, slight fever, &c.

Genus 18th. *Aphthæ.* A number of whitish superficial pustules on the mucous membrane of the fauces.

Genus 19th. *Catarrh of the urinary bladder.* By this the author means such an increased secretion of mucus, as sometimes arises from the irritation of a stone; and which not unfrequently happens to old men, who have no symptom of the stone. The characteristic symptoms of the disease, however, he thinks are not yet sufficiently ascertained.

Genus 20th. *Gonorrhœa* or *blennorrhagia.* Inflammation of the membrane lining the urethra, and of the fossa navicularis; a sense of heat in making water, &c.

Genus 21st. *Leucorrhœa,* or *whites.* In some cases a constitutional, in others merely a local disease.

Genus 22d. *Ophthalmia.* (Inflammation of the tunica conjunctiva.) Pain in the eyes, with swelling, and a troublesome flow of tears.

ORDER II. PHLEGMASIÆ OF DIAPHANOUS MEMBRANES.

Genus 23d. *Phrenzy.* Fury, with occasional sallies of gaiety and mirth, countenance flushed, and extreme irritability of the organs of sense.

Genus 24th. *True pleurisy.* Acute pain in the side, frequent cough, little or no expectoration.

Genus 25th. *Gastritis,* or *inflammation of the stomach.* Extreme anxiety, acute pain in the epigastric region, small and frequent pulse.

Genus 26th. *Enteritis.* Fixed pain in some part of the abdomen; costiveness.

Genus 27th. *Cystitis.* An oval tumour above the pubis, with acute pain, dysury or ischury.

ORDER III. PHLEGMASIÆ OF THE CELLULAR TEXTURE, THE GLANDS, AND PARENCHYMATOUS SUBSTANCE OF THE VISCERA.

Genus 28th. *Phlegmon.* Pain, redness, swelling, tension,—terminating in suppuration.

Genus

Genus 29th. *Peripneumony*, or *moist pleurisy*. Dull or pungent pain in the side; sharp cough, with an expectoration of mucus, mixed with blood at a certain period.

Genus 30th. *Hepatitis*. Symptoms various, according to the part of the liver which is inflamed; acute fever; painful tension of the right hypochondrium.

Genus 31st. *Nephritis*. Acute fever, with remissions; dull or pungent pain in one or both kidneys.

Order IV. Phlegmasiæ of the muscles.

Genus 32d. *Rheumatism*. Pain, tension, and sense of weight about the joints, the loins, and sometimes the whole body. Its termination is different from that of any other inflammation.

Genus 33d. *Angina!!* Symptoms various, according as the trachea, larynx, pharynx, or tonsils, are affected.

Order V. Cutaneous phlegmasiæ. Here the author notices the innumerable descriptions given by writers on scarlet, miliary, petechial, and vesicular fevers; which he considers as combinations of one of the simple fevers, with an exanthematous eruption.

Genus 34th. *Erysipelas*. A feverish attack two or three days before the eruption, pain, redness of the part affected, but with the swelling flatter than in *phlegmon*.

Genus 35th. *Small-pox*. Eruption of pimples, preceded two or three days before by a degree of fever; the pimples gradually assuming a pustular appearance.

Genus 36th. *Measles*. The eruption accompanied with symptoms of catarrh, cough, drowsiness.

Genus 37th. *Carbuncle*. In its third period a gangrenous slough occurs, which gradually enlarges; an areola forming round the original tubercle. In its fourth period, attended with symptoms of adynamic fever.

It should be observed that the defects in this *analytical table*, as it is termed, are often supplied in the descriptions.

Nevertheless, in these a multitude of inaccuracies will be found.

CLASS III.—ACTIVE HÆMORRHAGES.

ORDER I. HÆMORRHAGES COMMON TO BOTH SEXES.

Genus 38th. *Epistaxis.*

Genus 39th. *Hæmoptysis.*

Genus 40th. *Hæmatemesis.*

Genus 41st. *Hæmaturia.*

Genus 42d. *Excessive hæmorrhoidal discharge.*

ORDER II. UTERINE HÆMORRHAGES.

Genus 43d. *Excess, defect, stoppage,* or *irregularity of the menstrual discharge ! !*

Genus 44th. *Cessation of the menstrual discharge from advanced life ! !*

CLASS IV.—NEUROSES. (Nervous diseases.)

ORDER I. VESANIÆ. (Delirium without fever.)

Genus 45th. *Hypochondriasis.*

Genus 46th. *Melancholy.*

Genus 47th. *Mania.*

Genus 48th. *Hysteria.*

ORDER II. SPASMS.

Genus 49th. *Epilepsy.*

Genus 50th. *Hydrophobia.*

Genus 51st. *Convulsions.*

Genus 52d. *Tetanus.*

ORDER III. LOCAL IRREGULARITIES IN THE FUNCTIONS OF THE NERVES.

Genus 53d. *Muscular asthenia* (including palsy, wry-neck, &c.)

Genus 54th. *Spasmodic contractions of the organs of respiration.*

Genus 55th. *Nervous affections of the alimentary canal.*

Genus 56th. ——————— *parts of generation.*

Genus 57th. ——————— *organ of sight.*

Genus

Genus 58th. *Nervous affections of the organ of hearing.*
Genus 59th. *Gout.*
Order IV. Comatose affections.
Genus 60th. *Apoplexy.*
Genus 61st. *Catalepsy.*
Genus 62d. *Narcotism*, or *the poisonous effects of narcotic and intoxicating substances.*
Genus 63d. *Asphyxia.*

Class V.—Diseases of the lymphatic system.
Order I. Cutaneous diseases.
Genus 64th. *Leprous affections.*
Genus 65th. *Scurvy.*
Genus 66th. *Herpes.*
Genus 67th. *Tinea.*
Genus 68th. *Plica Polonica.*
Genus 69th. *Scabies.*—"Of the lymphatic system!!"
Order II. Diseases of the lymphatic glands.
Genus 70th. *Scrophula.*
Genus 71st. *Mesenteric atrophy.*
Genus 72d. *Phthisis.*
Genus 73d. *Syphilis.*
Genus 74th. *Cancer.*
Genus 75th. *Rachitis.*
Order III. Dropsies.
Genus 76th. *Hydrocephalus.*
Genus 77th. *Hydro-thorax.*
Genus 78th. *Ascites.*
Genus 79th. *Anasarca.*

Class VI.—Indeterminate.
Genus 80th. *Infantile jaundice.*
Genus 81st. *Diabetes.*
Genus 82d. *Intestinal worms.*
Genus 83d. *Bites of insects.*
Genus 84th. ——— *serpents.*

Under

Under each genus the author enters into the history and treatment of the diseases it includes; and, in many particulars, has shown considerable erudition, and a very general acquaintance with medical practice in different parts of the world. He has subjoined to the second volume some general precepts, on the study and practice of physic.

Upon the whole, we think this work (though in many parts tedious and defective) may be perused with considerable advantage, and may furnish some very useful hints to those who wish to traverse the field of nosology in future. R.

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *Description of an Apparatus for extracting Teeth in a perpendicular Direction*, lately invented by Mr. Simpson (the Patentee), Surgical-instrument Maker, Clerkenwell Green, London.

(Illustrated by an Engraving.)

THE occasional difficulties and dangers attending the operation of extracting teeth have given rise to several ingenious inventions for that purpose. The defects of the *German-key**, which is the instrument most universally used, are allowed on all hands, and various efforts have been made for its improvement; but those practitioners who are in the habit of operating with it, still lament the following imperfections:

1. When the crown of the tooth has been considerably excavated by a caries, the action of the bolster, whatever its shape may be, by its turning upon the side of the tooth, seldom fails to crush the crown before the fangs are detached from the socket; and whenever this happens, there can remain no hold for a second application of that instrument.

* It is singular that this instrument should be known in Germany by the name of the *English-key*.

2. When

2. When a great part of the crown has been destroyed by disease, the German-key very often cannot be applied sufficiently low, without pinching the edge of the alveolar process between the bolster and the tooth. This circumstance very often causes a diseased jaw-bone.

3. When the fangs of the tooth are firmly adherent to the inside of the alveoli, the lateral twist with which this instrument necessarily acts is apt to splinter the jaw-bone to a greater extent than would happen in any other direction.

These imperfections are inseparable from the principle upon which the German-key is constructed, viz. That the fulcrum shall be applied to the tooth itself: a *perpendicular action*, therefore, is the great desideratum in the invention which ought to supersede that instrument. But all the attempts which we know to have been hitherto made for that purpose have proved abortive, on account of the difficulty of finding a proper resting point for the fulcrum.

Mr. Hirsch, a celebrated dentist in Germany, in his "Practical Observations on the Teeth and their Diseases," prefers the Goat's-foot to all other instruments; and gives an instructive account of his own method of using it, which chiefly consists in making his left hand the fulcrum. It is evident that the Goat's-foot, when properly applied, must operate with great safety; but every dentist will easily conceive that its success depends entirely upon a peculiar dexterity, which can only be the result of long and reiterated practice.

An instrument lately invented in America has been mentioned as being free from the defects which were complained of in all others. But, as I have neither seen it, nor been able to procure a description or a drawing of it, I cannot compare it with the one I am about to describe: I shall, however, mention another, of which a description and plate have been given by Dr. Dyer, in a recent periodical publication. It consists simply of a long forceps, with claws shaped like

those of a common stump-forceps, acting upon a semicircular fulcrum, resting, or rather turning, upon the teeth adjoining that which is to be extracted; and if there be a deficiency among the teeth in front of it, an instrument is to be applied in their stead, upon which the fulcrum will act. The writer of this article having made experiments with similar instruments, is inclined to think that Dr. Dyer's fulcrum, by its rotatory pressure, would prove dangerous to the teeth on which it may be applied; especially if there should be a vacancy between them and the tooth which is to be removed, or if they were in a decayed state, or some part of their fangs were absorbed within the alveoli,—circumstances which are too often to be met with. It appears that some of these inconveniences might be prevented by inverting the fulcrum, so that its straight side should rest steadily upon the teeth, while the forceps turns upon its circular surface.

The ingenious artist, whose invention I now proceed to describe, has, in my opinion, successfully avoided the difficulties and obviated the bad consequences, to which the use of the above-mentioned instruments is subject.

The annexed copperplate gives a complete view of the apparatus in its ordinary size. The figures 1, 2, 3, represent claws of different sizes, made of steel; each consisting of two levers, connected by a strong joint, to which is adapted a spring, approximating their lower extremities to each other by a lateral pressure. After the gum has been scarified, so that the neck of the diseased tooth is bare, one of these claws must be chosen of an appropriate size, and be applied to the tooth by means of the forceps, fig. 4, which has a groove *b* on the inside of each extremity. In these grooves the processes of the upper extremities of the claw *a*, *a*, *a*, *a*, are lodged, so that, when the handles of the forceps are compressed, the claw cannot escape; and its lower extremities are kept asunder until they are applied to the neck of

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the tooth on both sides: the forceps is next to be opened and taken away; the claw, by the action of its spring, remaining firmly fixed to the tooth, which then occupies the space *d* in figures 1 and 2, or the space delineated by a diseased tooth in fig. 3. The vacuity *c* between the upper extremities of the claw, thus becomes fitted for the reception of a lever.

The instrument which performs the extraction is represented in fig. 5; and consists of a cylindrical piece of highly polished steel, with a process shaped like a hook, C, near the extremity A. A strong transverse ivory handle is adapted to its other extremity B. At a distance of one third of its length from the ivory handle, this cylinder has a neck, between the letters K and L, where two blades of steel, I K and D L, connected by screws, are lodged between two ornamental projections of the cylinder; so that they cannot be taken away without removing the screws, but will permit the cylinder freely to turn between them: these blades are flexible, and tend to approach each other by a moderate degree of elasticity. The upper blade I K is shorter than the other; at its extremity I it becomes wider, and, by a curvature, embraces the cylinder at a small distance from the hook-like process C, in order to prevent any lateral deviation in the action of the cylinder. The lower blade D L is flat in its upper surface from the angle near its junction with the other blade as far as E, where it becomes wider by a projection towards the side nearest in view, and is rounded off on both sides: this extremity forms the fulcrum, upon which the extremity A of the lever A B is raised, by turning the ivory handle, so that the hook C becomes interposed between the line A B and the fulcrum D. On the inferior surface of the fulcrum there is a dove-tail groove admitting several sliding plates, to which leather cushions of different shapes and sizes are fixed, as appear in figures 6 and 7. F shows the sliding plate, as it is sewed

upon the cushion: to the inferior surface of the blade D L a flat steel handle H is adapted, by the screw M. This handle is a plate of steel about one inch and a half in length, with a circular extremity of one inch diameter, which is made rough on its superior surface, in order to be less liable to slip between the fingers: it is also moveable upon the screw M; and can be turned toward either side of the instrument, to any angle that may be required.

The use of the instrument here described is very simple. When one of the above-mentioned claws has been fixed upon the diseased tooth (which we will suppose to be a grinder of the lower jaw, on account of the view in which the instrument is delineated), the operator takes the ivory handle of fig. 5 in his right hand, in the same manner as he would hold the handle of a German-key: the flat steel handle H is to be placed steadily between the thumb and index of the left hand, so that the thumb should press perpendicularly upon the rough part of it, and the index should be supported by the fingers of the same hand being bent; the ivory handle is next to be turned, so as to bring the origin of the hook C close upon the rounded surface of the blade D L (where, in the plate, the convex curvature of that hook is represented to rest); the extremity A of the lever A B will then be on a level with the upper surface of the blade D L. Thus the instrument is introduced into the mouth (in the present instance we suppose that there is no deficiency near the diseased tooth); the bolster E is at the same time to be cautiously placed upon the tooth or teeth, immediately before that which is to be removed; and the cylindrical extremity A of the lever A B is to be put into the space *c*, between the upper extremities of the claw which has been placed upon the diseased tooth. It is necessary to observe, that the cylindrical extremity A ought to be introduced into the space *c*, as far as the ornamental projection near C will permit; which being done, the operator ought

to

to make his left hand, holding the handle H, completely steady, taking care neither to depress nor to elevate it: at the same moment the ivory handle is to be turned quickly, with the convex curvature of the hook C pressing upon the fulcrum D, until the extremity of that hook rests upon the highest point of the fulcrum D; and this requires no more than half a revolution of the right hand. By that simple and sudden motion, the extremity A of the lever is instantly raised about three quarters of an inch above its level; consequently, the claw holding the tooth will be elevated to the same height, by a force more than sufficient to detach any tooth that can possibly be separated from its socket.

In order to be convinced that the action of this lever is as perpendicular as can be desired, it will be only necessary to consider, that the line of elevation is a segment of about three quarters of an inch of a circle, whose radius measures full four inches, namely, the distance A L.

The strength of the lever, the steady situation of the fulcrum, and the peculiar mechanism of the claws (which merits particular attention), leave no room whatever to apprehend a failure in the operation. The superior extremities of the claws are highly polished on the inside; and their edges are so closely joined, when a claw is fixed upon the tooth, that they are brought almost in close contact with each other: the cylindrical extremity A of the lever, being also highly polished, cannot in the least alter the connexion of the claw with the tooth; on the contrary, it is evident that the hold of the claw upon the neck of the tooth must be increased, by the tendency of the rising extremity of the lever to force the upper parts of the claw asunder.

Should there be a vacancy among the teeth, where the fulcrum is to be applied, cushions of different shapes and sizes, fitting the gums, and represented by fig. 8, have been provided by the inventor: upon these the fulcrum D may

be rested, either with its sliding cushion E or without it, according to circumstances.

As it would be superfluous to describe separately the use of this apparatus when applied to the teeth of the upper jaw, we have only to observe, that its application must be conducted in an inverted direction; for instance, that the blade D L be turned to the upper part of the lever; that the flat handle H be turned to the opposite side of the instrument, in order to meet the operator's left hand; *et cæteris mutatis mutandis.*

When the tooth to be extracted is in the upper jaw, and there happens to be a deficiency among the neighbouring teeth where the fulcrum D ought to rest, it would be very inconvenient to use such a cushion as fig. 8, because it would require something to prevent its falling down before the fulcrum was placed on it; therefore the apparatus contains cushions similar to fig. 7, which may be adapted to the fulcrum by the sliding plate G.

In fig. 2, one of the lower extremities of the claw has been represented longer than the other; which is sometimes necessary, when the height of the alveolar process on the outside of the jaw is different from that on the inside, and consequently the neck of the tooth is lower on one side than on the other.

This ingenious apparatus has been tried by several skilful persons in London, to whom its simple mechanism and operation have given great satisfaction; especially, as its success in practice depends merely upon the dentist's understanding the principle on which it acts: for it does not require a greater degree of practical dexterity than the use of any of the most common instruments hitherto employed.

The only objection this instrument has met with, is that of being less calculated for the extraction of the incisors and canine teeth, than for the back-teeth. Although it has been very successfully used in the front of the mouth, it must be admitted that some additional contrivance seems requisite,

requisite, to make it so perfectly eligible for that purpose as it unquestionably is for the extraction of the grinders: and I am well assured that the inventor would not be at a loss to remedy this defect by a trifling addition to the apparatus, which might be adapted, *pro tempore*, whenever a front-tooth is intended to be removed; but I doubt very much whether many dentists would wish for such an addition, as the removal of front-teeth is not often required, and is generally a less difficult operation than the extraction of the molares.

The whole apparatus, beside the parts represented in the annexed plate, contains two more pair of claws of different sizes, with some additional cushions, and a pair of improved stump-forceps.—To conclude: I have no doubt that this invention will be found highly useful to those who wish to operate with peculiar ease or safety; and that an extensive sale will amply reward the inventor, to whom the exclusive privilege of its construction has been recently secured.

London, April 16, 1799. JOHN KŒNIG.

Art. 2. *An Account of the Pelagra; a Disease endemial in the Dutchy of Milan.*

(Read at a Meeting of the Society, March 21, 1799.)

THE disease called the PELAGRA, which is the subject of this paper, does not appear to have been noticed by any of our nosologists. Indeed few accounts of it have hitherto been published; although the peculiar symptoms with which it is attended, and the fatal consequences which generally ensue from it, render it equally curious and important. In certain districts, where it is peculiarly prevalent, it is computed to attack five inhabitants out of every hundred. His Imperial Majesty has, therefore, been induced to establish an hospital, capable of containing forty patients, at Legnano

(a town

(a town which lies about fifteen Italian miles from Milan, toward the Lago Maggiore), for the reception of such patients only as are afflicted with this disease: the other hospitals of Milan and Pavia are also enjoined to receive ten such patients, that the physicians in general may have an opportunity of observing it; and in order to excite their attention to the subject more fully, rewards are promised to any person who shall discover an adequate remedy.

The account I am going to lay before the Society is principally extracted from a short, but well-written, treatise on this subject, which was published at Leyden about eleven years ago, by Dr. Jansen; who had himself seen the disease at Milan, and had taken considerable pains to collect all the information he was able respecting it from the physicians there.

Dr. Jansen defines it—"*Morbus endemius, verno tempore macula rosea in dorso manûs plerumque se primo manifestans, hyeme disparente, sed quæ sequenti anno haud raro gravioribus stipata symptomatibus recurrit, tandem melancholia, mania spasmisque comitata, mortem vix non semper inferens.*"

The antiquity of this disease appears to be much disputed; some contending that no certain traces of it are to be found farther than thirty or forty years back. Dr. Stranchi, who is physician to the hospital before mentioned, affirms, that he has met with patients whose parents and ancestors had suffered from it sixty years before them; and Dr. Frapolli, physician to the principal hospital at Milan, who published a short description of it in 1771, maintains that it is more ancient still. However this may be, it is evident that it formerly occurred much less frequently than it has done of late, and that at the time when Dr. Jansen wrote, it prevailed to a very serious extent.

The account Dr. Jansen has given of its symptoms and their progress is as follows:

"About the month of March or April, when the season invites the farmers to cultivate their fields, it often happens,

that a shining red spot suddenly arises on the back of the hand, resembling the common erysipelas, but without much itching or pain, or indeed any other particular inconvenience. Both men and women, boys and girls, are equally subject to it. Sometimes this spot affects both hands, without appearing on any other part of the body; not uncommonly it arises also on the shins, sometimes on the neck, and now and then, though very rarely, on the face. It is also sometimes seen on the breasts of women where they are not covered by the clothes, but such parts of the body as are not exposed to the air, are seldom affected; nor has it ever been observed to attack the palm of the hand, or sole of the foot. This red spot elevates the skin a little, producing numerous small tubercles of different colours; the skin becomes dry and cracks, and the epidermis sometimes assumes a fibrous appearance. At length it falls off in white furfuraceous scales, but the shining redness underneath still continues, and in some instances remains through the following winter. In the mean time, excepting this mere local affection, the health is not the least impaired, the patient performs all his rural labours as before, enjoys a good appetite, eats heartily, and digests well. The bowels are generally relaxed at the very commencement of the disease, and continue so throughout its whole course. All the other excretions are as usual, and in females, the menses return at their accustomed periods, and in the proper quantity. But what is most surprising, is, that in the month of September, when the heat of the summer is over, in some cases sooner, in others later, the disorder generally altogether disappears, and the skin resumes its natural healthy appearance. This change has been known to take place as early as the latter end of May or June, when it has only been in its earliest stage. The patients however are not now to be considered as well: the disease hides itself, but is not eradicated. For, no sooner does the following spring return,

return, but it quickly re-appears, and generally is accompanied with severer symptoms. The spot grows larger, the skin becomes more unequal and hard, with deeper cracks. The patient now begins to feel uneasiness in his head, becomes fearful, dull, less capable of labour, and much wearied with his usual exertions. He is exceedingly affected by the changes in the atmosphere, and impatient both of cold and heat. Nevertheless he generally gets through his ordinary labour, with less vigour and cheerfulness indeed than formerly, but still without being obliged to take to his bed; and as he has no fever, his appetite continues good, and the chylopoiëtic viscera perform their proper functions. When the pelagra has even arrived at this stage, the returning winter, nevertheless, commonly restores the patient to apparent health; but the more severe the symptoms have been, and the deeper root the disease has taken, the more certainly does the return of spring reproduce it with additional violence. Sometimes the disease in the skin disappears, but the other symptoms remain notwithstanding. The powers both of the mind and body now become daily more enfeebled; peevishness, watchings, vertigo, and at length complete melancholy, supervene. Nor is there a more distressing kind of melancholy any where to be seen, than takes place in this disease. "On entering the hospital at Legnano," says Dr. Jansen, "I was astonished at the mournful spectacle I beheld, especially in the women's ward. There they all sat, indolent, languid, with downcast looks, their eyes expressing distress, weeping without cause, and scarcely returning an answer when spoken to. So that a person would suppose himself to be among fools and mad people, and indeed with very good reason; for gradually this melancholy increases, and at length ends in real mania. Many, as I had an opportunity of observing in this hospital, were covered with a peculiar and characteristic sweat, having a very offensive smell, which I know not how better to express

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than by comparing it to the smell of mouldy bread. A person accustomed to see the disease would at once recognise it by this single symptom. Many complained of a burning pain at night in the soles of the feet, which often deprived them of sleep. Some are affected with double vision, others with fatuity, others with visceral obstructions, others with additional symptoms. Nevertheless fever still keeps off, the appetite is unimpaired, and the secretions are regularly carried on. But the disease goes on increasing, the nerves are more debilitated, the legs and thighs lose the power of motion, stupor or delirium come on, and the melancholy terminates in confirmed mania. In the hospital at Legnano I saw both men and women in this maniacal state. Some lay quiet; others were raving, and obliged to be tied down to the bed to prevent them from doing mischief to themselves or others. In almost all these the pulse was small, slow, and without any character of fever. One woman appeared to have a slight degree of *furor uterinus*, for at the sight of men she became merry, smiled, offered kisses, and by her gestures desired them to come towards her. Some were occupied in constant prayers, some pleased themselves with laughter, and others with other things. But it was remarkable, as Moscati observed, that all who were in this stage of the disease had a strong propensity to drown themselves. They now begin to grow emaciated, and the delirium is often followed by a species of *tabes*. A colliquative diarrhœa comes on, which no remedy can stop, as also has been observed in nostalgia. Sometimes in the pelagra the diarrhœa comes on before the delirium, and the delirium and stupor mutually interchange with each other. The appetite often suddenly fails, so that the sick will sometimes go for near a week without tasting food. Not uncommonly it returns as suddenly, so that they eagerly devour whatever is offered them, and this even at times when they are horridly convulsed. The convulsions with

which they are attacked are most shocking to see, and are of almost every kind, catalepsy excepted, which has been described by writers. I saw one girl in bed, who was violently distorted by opisthotonos, every time she attempted to rise; some are seized with emprosthotonos, and others with other species of tetanus. At length syncope and death close the tragedy, often without any symptom of fever occurring through the whole course of the disease."

The first stage of the pelagra, in which the local affection only takes place, Dr. Jansen observes, continues, in some instances, for a great length of time; persons being occasionally met with in whom it has lasted for six or eight, or even fifteen years, disappearing regularly every winter, and returning again in the spring. This occasions some of the inhabitants to pay little attention to it, although in other cases it reaches its greatest height after the second or third attack.

It appears that this disease is not infectious, and that the causes producing it are yet unascertained. It has been supposed by some to arise from the heat of the sun's rays, and hence it is now and then called *mal del sole*; but Dr. Jansen justly observes, this does not produce any similar disease in other parts of the world where it is in an equal or even much greater degree than at Milan; no disease in any respect resembling it having hitherto been noticed in such regions, except the Lepra Asturiensis described by Thiery, and after him by Sauvages. In this, a tremor of the head and trunk of the body takes place, which does not happen in the pelagra. This, however, is the principal difference between the two diseases.

The remedies hitherto employed for the cure of this disease are of very doubtful efficacy. Warm bathing, and blisters to the occiput, seem to be most beneficial. The two following cases are quoted by Dr. Jansen from Frapolli, in which the disease was cured; but, from its great prevalence,

lence, Dr. Jansen seems not to place much confidence in any of the plans of treatment hitherto recommended.

Case 1. "Martha Bonfanti, aged about thirty, having for three years neglected the first symptoms of the pelagra, at length had the disease in its confirmed state. She was of middling stature, a temperament approaching to the sanguineous *(temperamenti sanguineo-lymphatici)*, and had borne four children. She was received into the hospital on the 1st of August. On examination I found the abdominal viscera were sound, her pulse was exceedingly feeble, and without fever; she was costive, and had now for some time laboured under vertigo and other complaints of the head. The skin, on the back of the hands particularly, and also on the feet, was callous. She appeared very dull, emaciated, and so weak that she was scarcely able to stand. She complained of a bitter taste in her mouth, and want of appetite; and her tongue was covered with a white crust. I ordered her to take a gentle laxative of Flor. cassiæ and Pil. succini; afterwards tartarized whey every morning for three days, and then for one day a strengthening mixture composed of Aq. artemis.—Melissæ tot. citri āā ℥ij, Conf. alcherm. ℥j, Liq. C. C. succin. ℈ß. She was then put into the warm bath, but with no good effect, for she was unable to bear it on account of her weakness; I therefore directed frictions over the whole surface of the body, and particularly of the extremities; and the parts affected to be fomented with an emollient decoction: she was several times cupped, and once had leeches applied to her temples, and also took inwardly eight ounces of Aq. Theadæ twice a-day. After persevering in the Aq. Theadæ for twelve days she was very much relieved, and had greatly recovered her strength. But as, during the use of these remedies, she had become rather costive, I ordered her a gentle laxative on the 25th of August, and another on the 27th, the frictions in the mean time being continued. Afterward,

as she was recovering, she was allowed a fuller diet, with six ounces of wine in a day; but no meat, that being never proper in diseases from obstructed perspiration. She now became cheerful, gained flesh, and her countenance resumed an healthy appearance; she sat up, and walked about, and at length went home in good spirits on the 11th of September."

Case 2. "Frances Cajellina was admitted the 3d of August. She was about fifty years of age, of a melancholic temperament, of a strong and fleshy make, and having neglected the pelagra in its early stages, it was now in its confirmed state. She had nearly the same symptoms as Martha Bonfanti, only her pulse was slow and not so weak, and she had more general strength, though not in her extremities. I directed for her the usual purgative medicines, and, after a few days, the cephalic decoction, with tincture of amber: she was then ordered into the bath fifteen days. After this, I found her still dull and weak: I therefore directed universal frictions, frequent cupping, and leeches to be once applied to the temples; I also prescribed a blister to the occiput, from which she obtained great relief. She took the Aq. Theadæ for some days, and then the strengthening mixtures, and, as she was daily getting better, fuller diet was allowed, and at length she went out cured. But the disease was more obstinate in this woman, her natural constitution being more unfavourable."

Frapolli asserts that many have been cured by this plan of treatment, but to this assertion Dr. Jansen does not seem to give much credit, unless the disease were much milder at the time Frapolli wrote than it has been since.—It is to be regretted that no accounts whatever are given of the examination of the bodies of such as have died of this complaint.

I may probably, at some future period, attempt a farther consideration of the subject; and in the mean time shall

endeavour

endeavour to collect what information I can obtain both concerning the Pelagra and the Lepra Asturiensis. P.

Art. 3. *On the Medicinal Virtues of Phosphorus.*

(Concluded from page 80.)

THE dangerous consequences which are likely to follow the injudicious administration of phosphorus cannot be impressed on the mind more strongly, than by the relation of a few cases and experiments which are mentioned by Weickard, in the fourth part of his miscellaneous writings *(Vermischte Medicinische Schrifften von M. A. Weickard)*. These cases and experiments I shall now state to the Society; and in doing so, I shall give a literal translation from the original German.

"A Jew of a phlegmatic habit was struck with apoplexy. He was speechless and lame, and could not void his fæces except he was assisted by art; his appetite, however, was good. Mineral baths and many remedies were tried to restore him, but in vain. I was at last tempted to make a trial of phosphorus. At first from two to three grains were given to him, and it was my intention to have increased the dose to five or six. The first dose was given in a conserve, but the following day in honey. His excrements were luminous. Suddenly, about the middle of the third night, he was seized with violent vomiting, during which he was very ill; but after the vomiting had ceased he found himself better. The pulse was small and quick. I did not venture to give any more phosphorus, particularly as his relations were afraid of it. A blister was applied, and cooling and demulcent drinks were exhibited. He looked very ill, seemed quite exhausted, and appeared to suffer pain in the abdomen, which was a little tumified. He took some nourishment every day; but what he ate was very small in quantity.

quantity. The vomiting ceased entirely. He lived four days longer, and died. I did not see him the day when that event happened; but he had all the symptoms of having died of gangrene. There were even externally, according to the report of the surgeon, many large gangrenous spots.

"This case caused me a great deal of uneasiness. The patient could not speak for some time before his death, and could not therefore describe his sufferings.

"Almost about the same time that Professor Zessler exhibited the phosphorus to his two patients, the intelligence was communicated to a man who had a tendency to apoplexy and to palsy. He had read in Mellin's Materia Medica all that was said in praise of phosphorus, and he was in consequence desirous of making trial of it: but, before he began to take it, he was seized with a kind of apoplectic fit, in which he lay as if deprived of all power. He caused three grains of phosphorus to be rubbed with a little oil and to be given to him—he took this dose morning and evening. It seemed to revive him, for he got up and walked about the house. He continued to take this medicine several days, upon which he became feverish, and was affected with nausea and loss of appetite: a gentle emetic was given him. Two days after this I saw him for the first time: he told me that he had been violently affected with pain in the abdomen, particularly towards the evening: he was very dry, and his eyes were yellow. When I pressed my hand on the abdomen it did not give him pain. I ordered him whey, nitre, acid drinks, cream of tartar, and glysters. The third day after this he grew worse: I happened to be out of town, and another physician was sent for, who gave him musk and various other remedies. I visited him in the evening, and found him gangrenous. His hands were applied to his head, as if he suffered acute pain there; his screams were loud and unremitting; he was deli-

rious, and spoke unintelligibly; and there was not any pulse at the wrist.—He died about midnight. Upon inspecting the body, the liver appeared obstructed, and the stomach was gangrenous near the cardia. Is it not to be feared that the phosphorus had occasioned this? or was this the effect of a gouty or rheumatic acrimony thrown upon that part? It was afterwards remarked that a number of people were seized at this time with vomiting, and violent pains in the bowels, and also with the iliac passion. Two months were scarcely elapsed when I met with a case in which all the circumstances of the complaint were similar to those narrated in the above-mentioned case, but where the patient had not swallowed a single grain of phosphorus."

I do not think it necessary to translate the particulars of the case alluded to, or many of the remarks which follow it; but I proceed to lay before the Society an account of some experiments which Dr. Weickard made with phosphorus on dogs.

" It is now upwards of a year since six grains of phosphorus were offered to a hungry dog: the phosphorus was enclosed in a piece of meat: the dog smelt it, and refused to take it; it was, therefore, forced down his throat. He immediately began to run about the room, exhibiting much anxiety, and seemed desirous to go out. He grew sick and vomited the bolus, which seemed to be on fire: upon this the dog again appeared impatient to get out. The smell of the phosphorus however ceased to be emitted by the vomited matter. The dog smelt it again, and ate it: he immediately became extremely lively, springing quickly from one table to another. The experimenters ought to have stopped here; but some one brought another piece of meat, in which there were eight grains of phosphorus enclosed. This was also forced down the dog's throat, and he again vomited it on fire: he did not, however, exhibit the same anxiety to leave the room which he had done the first time, but waited patiently

patiently until the disagreeable fœtor which arose and filled the apartment had escaped from his morsel, after which he ate it greedily. His inclination to leap and run about was now uncommonly great; nothing was too high or too distant for him: but as we were afraid he might do some injury by this kind of exercise, he was dismissed the apartment. He again vomited once or twice, but since that time has remained perfectly well."

Such are the principal facts related by Weickard. — I now pass to the latest publication which I have yet seen on the subject of phosphorus. It is a letter on its medicinal virtues by M. Alphonso Leroi, and is printed in the only volume of Memoirs which the Society of Emulation at Paris has yet published. I shall give a short abstract from this paper.

One of the first experiments which M. Leroi made, was upon himself: he swallowed three grains of phosphorus with some theraica. It is a wonder, he says, that he was not killed by it; for phosphorus does not require more air than is commonly contained in the stomach, in order to take fire, and burn in such a manner as to have eaten through that organ. "For two hours," the Professor observes, "I found myself extraordinarily incommoded. I drank frequently little draughts of cold water. After some hours had elapsed the uneasiness ceased. My urine was high-coloured; but the following day my muscular force was doubled, and I felt an insupportable venereal irritation. I afterwards gave this remedy to the young man whose case is related in the Gazette de Santé, for the 29th of August 1779. It was truly owing to phosphorus that his life was saved in a most malignant fever, in which the prostration of strength was so great as not to leave me any other resources but this remedy."

M. Leroi then proceeds to inform us that he has frequently employed phosphorus since that time. He at first prescribed it in the form of a *lohoch*. It is always difficult to pulverize it; but this difficulty he overcame in the following manner:

manner: he puts the phosphorus into warm water, and agitates it violently; it divides itself like oil into a great number of little globules, and if cold water be now added, it is precipitated to the bottom in the form of a powder. Of this powder one or two grains are to be taken, and rubbed with a little sugar, a drop or two of oil, and some yolk of an egg. "A quarter of a grain every day is quite sufficient to produce great effects."

At other times he says he has given it in a mixture of oil, syrup, and some aromatic distilled water. He asserts that Kunkel gave phosphorus internally in England in the form of pills, which were luminous; and he informs us, that he himself has found out the manner of composing them; but they require so nice a manipulation, that he has entrusted the secret only to Messrs. Pelletier, the brothers, being warned, by his own experience, of the mischief which arises from giving it improperly prepared. Each pill contains the eighth of a grain of phosphorus. They are endowed with a soporific and calming property. Professor LEROI has frequently employed them in cases of rheumatism, in a great number of nervous diseases, pituitous diseases, and in many acute and chronic complaints. He believes that this remedy is capable of prolonging life beyond the natural period; and after having spoken of its great restorative power, he relates the following case in confirmation of this opinion:

"I was one day called to an old man aged eighty-seven, the uncle of Madame de Fourqueux, in whom life seemed to be almost totally extinguished. I composed for him a mixture of six ounces of different distilled aromatic waters, one ounce of oil containing three grains of phosphorus, and two ounces of syrup. Of this he took three table-spoonfuls every day; and beside this, he took eight drops of volatile alkali in a glass of sweet aromatic water twice a day, before his meals. By these means I illuminated the dying embers of life, and he survived seven years after an attack of weak-

ness in which it must have appeared like madness to attempt to interfere.

"I may safely affirm, that I have been as much occupied in seeking out the cases in which this medicine proves hurtful, as in detecting those in which it is serviceable; and I can assert, not only from my own experience, but also from that of the late M. Lecointre, my pupil, who was physician to the hospital of Rambouillet, that we have not found it hurtful in any one case; that it has only been useless in some; and that only in such cases in which life was already extinct in some parts of such patients as had not a sufficient portion of living principle in them to reanimate the whole frame."

Mr. Leroi affirms, that the divisibility of phosphorus is almost infinite; and in proof of this assertion he states, that "the body of a woman who died of a putrid fever, and who had taken *one grain* of phosphorus, was entirely luminous within. The hands of the late Rielle, the anatomist, who opened the body, were luminous some hours after they had been washed!!"

I cannot conclude this paper without again expressing a wish, that these experiments may be repeated and extended by the medical practitioners of this country. Upon maturely considering all the facts which have been brought forward concerning it, little room for doubt will be left in the mind as to its uncommon powers; but, although this be granted, experience is still wanting to point out the diseases, and various stages of disease, in which it may be employed with equal safety and utility, as also to determine the circumstances under which it would be dangerous even to try it.

Thus much may doubtless be asserted concerning it; that it is one of the highest stimuli which we have in the catalogue of the materia medica; and that, although it is affirmed by M. Leroi and others to be "calming and sedative,"

it

it is only so in such cases as wine, æther, Hoffman's anodyne liquor, and opium, are also found to be calming and sedative; that is, in cases where the arterial action of the whole frame is nearly exhausted, although still quick. I would caution every practitioner against exhibiting it in any inflammatory disease, where much strength exists; and, in all cases, I would likewise recommend that *very small* doses should be first exhibited. J.

Art. 4. *On the Application of Pneumatic Chemistry to the Art of Healing, and on the medicinal Properties of oxygenated Substances.* By M. Fourcroy.

(Continued from page 86.)

"THE second axiom comprehends a series of propositions, which flow so directly from it, that in no essay whatever of theoretical medicine have the facts and their explanations been found more closely united; never has a clearer light shone on therapeutics. I shall at present only mention a few of the applications of which I speak; all the others which are related to them, will easily present themselves to the minds of those who examine the subject with the slightest attention.

"It appears to be so true a position, that the medicinal property arising from the presence of oxygen is in a direct ratio with the attraction of this substance for animal matter, and the rapidity with which it quits the compounds of which it makes a part, in order to be united to these organized bodies; that water, as oxygenated hydrogen (hydrogen being that substance which of all others has the greatest affinity with oxygen), is the weakest of all medicines; that carbonic acid in which the oxygen is retained by carbon, inasmuch as it holds the next place to hydrogen, is only slightly sharp, and has little medicinal power; that phosphorus, quitting the

third rank for its affinity to oxygen, forms with it the phosphoric acid, which is widely distant from the acrimony of the sulphuric acid, the radical of which, sulphur, retains oxygen with less force than phosphorus; and that the nitric acid, the most powerful of all the acid compounds, is only attached in its composition of azote and oxygen by so slight a band, that the oxygen, which is separated with rapidity, seizes immediately the organized bodies which it touches, in such a manner, that when it is concentrated it burns them, and destroys them the moment it comes into contact with them.

"The same series of effects relating to the attraction of oxygen is to be discovered in the metallic oxyds and their solutions. All the oxyds formed by metals which have the smallest attraction for oxygen are violent caustics, as I have already proved. Those, on the other hand, which forcibly retain this principle, those which do not allow it to be withdrawn by animal substances, have little energy, or are absolutely inactive; such as the grey oxyd of zinc, the black oxyd of iron, the oxyd of tin, &c.

"However probable these assertions may appear to be, whatever agreement there may seem to be between them and the facts of practice, they would only have been to me simple hypothetical probabilities; they would not have sufficed in my mind to form a fixed doctrinal point, if I had not found out the means of confirming them, and of proving them to men, the most difficult of being convinced, by exact observations and experiments.

"The important discovery of Berthollet, on the difference between corrosive sublimate and sweet mercury, the first being more oxygenated than the second; and on the passage of corrosive sublimate, or sur-oxygenated muriate of quicksilver, to calomel, or simple muriate of quicksilver, when heated with animal substances, was a flash of light: but it was only an experiment made on dead animal matter, and I

was desirous to find proofs of the same thing in the living animal. Although it was not difficult to try it on a living animal, although I believed the result would be conformable to the assertion of Berthollet, that is to say, after having given some *grammes* of the sur-oxygenated muriate of mercury to a dog, I should afterwards have found this salt in the viscera of the animal in the state of sweet mercury: I have not made this experiment, both because it is somewhat uncertain and not without difficulty, and also because other deductions have rendered it unnecessary. I have constantly observed what Lorry remarked upwards of thirty years ago, that the red oxyds of iron are voided by the intestines in the state of a black oxyd, which tinges the stools of that colour. This can only happen by the organs through which the medicine passes robbing the red oxyd of that proportion of oxygen which it has over the black oxyd; that is, by withdrawing all the oxygen which surpasses 0.27 oxydation of the metal. It is too evident to require a long explanation, that it is to this portion of oxygen, disengaged and slowly absorbed in the intestinal tube, either by the fluids which lubricate the intestines, or by the fibres of the canal, that the tonic, astringent, and stimulating effects of the remedy are owing.

"It has been proved a long time since, that the yellow and red oxyds of mercury become black by the contact of animal matters; that this effect is produced in the intestines; and that it is to this that the appearance of globules of quicksilver, found in the cells of the bones of those who have taken it for a great length of time, is owing.

"The application of metallic caustics to ulcers and cutaneous affections, does not leave any room for doubt as to the reduction of the oxyds, and the passage of their oxygen into the animal matters, which accompany, determine, and at once explain their action. This is easily seen in the fuming muriate of antimony, or *butter of antimony*, the liquid nitrate

trate of mercury, and the solid nitrate of silver, or lunar caustic, which leave, on the eschars they form, a layer of matter resembling, and sometimes even a real, metallic lustre.

"Another assemblage of facts, which we owe to the light that has been thrown upon the practice of physic, by the pneumatic doctrine, and which supports the theory I am speaking of, embraces every thing that regards the means either of destroying the terrible effects of caustic poisons, or of alleviating and curing the slow ravages they leave behind them in those who have been fortunate enough to escape from the first danger. When Navier recommended the sulphurs of alkalies for the poison of arsenic, verdigrise, and corrosive sublimate, he knew very well that by decomposing and absording these acrid metallic substances, the new sulphurets which were formed had not the causticity of the poisons; but he did not know how much advantage was to be gained both from the natural and artificial sulphurated waters, of which the sulphurated hydrogene, by withdrawing a portion of oxygen from the metallic oxyds, withdrew in a similar proportion the cause of their venom: he did not know that iron, in the state of a fine powder, was equally capable of destroying the causticity of metallic salts, whether they were of copper, arsenic, or quicksilver; and that this depended on the iron robbing them of the oxygen which renders them caustic.

"Although Berthollet discovered the useful property which the decoction of bark possessed in counteracting the poisonous effects of a too large dose of the tartrite of antimony and potash (emetic tartar), yet he did not know that it was by abstracting oxygen from the metal antimony that the extract of bark owed its powers; and, indeed, it was not until some time after this discovery of Berthollet's had been made, that I demonstrated the strong tendency which the decoction of bark has to absorb oxygen. Thus, while researches

researches into the nature of the antidotes of poisons are constantly making progress in favour of chemistry, this beautiful science throws light on the mechanism of the animal functions and on the operation of medicines. Among all the happy and well-authenticated events which I have enumerated, there is one which we now acknowledge to take place in a great number of chemical operations:

"Oxygen obeys its laws of attraction; either it quits one substance in order to unite itself with another, or it divides itself between two substances, so as to produce an equilibrium, one of the substances withdrawing more or less oxygen from the other. We select for this salutary purpose, matters which not only have a greater affinity for oxygen than the bodies which we wish to dis-oxygenate, but which have also the useful property of robbing these substances of their causticity, and of retaining their burning principle with such force as shall prevent them from exerting this influence on our organs; that is to say, so as to force them to remain in such a state of inactivity, although oxygenated, as shall not affect our frames. Such is the process, so simple and so easily to be conceived, by which the chemist, in treating corrosive sublimate with iron, copper, tin, and antimony, withdraws from the quicksilver of the sublimate the oxygen which renders it acrid, and throws the cause of all its effects on the metals which effect its decomposition. Such is the remarkable circumstance of the division of the oxygen by quicksilver, that by means of simple trituration it robs the corrosive sublimate of a portion of that principle, and in losing its metallic form it so far softens the acrimony of this salt, that instead of being any longer a caustic poison it is only a simple purge. Such, moreover, is the ingenious process of M. Vauquelin, by which he fabricates the martial æthiops in a few minutes, by simply heating the red oxyd of iron with iron filings; these withdraw a portion of oxygen from the red oxyd, and cause an equilibrium to take

place

place between the two portions of iron, so as to reduce the whole mass to the state of a black homogeneous oxyd." M.

(To be resumed next month.)

Art. 5. *Case of a remarkable Tumour between the Rectum and Vagina, communicated by* Mr. JEAFFRESON.

ON the 7th of December 1798, I was called to Mrs. D..... aged about twenty-seven, of rather a delicate constitution, who was just recovering from an obstinate cough and pain in the chest: she had never borne any children, and her menstruation continued perfectly regular. She now complained of great pain in the lower part of her abdomen, particularly just above the left groin; there was no hardness to be felt, and no pain upon pressure, excepting in that spot. She had been sick, and vomited; her skin was dry, tongue rather dry and white; she was very weak, and refused to take almost every thing; her bowels were rather costive, and she had a little difficulty in making water.

I gave her some pills with Ext. cathart. & Calomel; and after they had operated, a cordial mixture with Confect. aromat. & Sp. vol. ammon. On the next day (the 8th), she had taken the pills, which, according to the nurse's account, had operated well; but she had taken very little of the mixture, and scarce any thing by way of nourishment: she was rather easier, but much weaker, and experienced more difficulty in making water. I now gave her some draughts with Aq. ammon. acet. ʒij, Vin. antim. gutt. xxx, Tinct. opii gutt. viii, sextâ horâ sum. and ordered enemas with plain gruel, to take off this spasmodic affection of the neck of the bladder (as I then supposed it to be).—On the 9th, she had taken very little of her medicine, and permitted one glyster to be injected, had taken scarce any thing, and made very little water. The bladder being now much distended, I

pointed

pointed out to her the necessity of drawing off the water; which she refused to have done, and wished to see Dr. Latham. I ordered her to go on in the same way, and the abdomen to be fomented.

On the next day (10th) Dr. Latham saw her, and agreeing with me that the water must be drawn off, she consented to have it done immediately.—I found considerable tightness on the introduction of the catheter, just before the neck of the bladder, of which, at that time, I did not know the cause. She was very much relieved, and Dr. L. said, by repeating the operation for a few days, he had no doubt but she would be very well: he ordered the glysters to be repeated, and some draughts with Sp. æther. nit. & Tinct. Thebaica. He did not come to see her any more.

As she did not get any better, I wished some other practitioner to visit her; and, it not appearing to be a case coming exactly under the care of a physician, Mr. Blair was requested to see her; which he did on the 13th.

During this interval she took no medicine worth mentioning, but now and then she received an enema. Upon making a proper examination, Mr. B. felt a round and elastic substance, filling up the entire cavity of the pelvis, very much resembling an enlarged ovarium. The pressure of this firm mass upon the neck of the bladder and the rectum, appeared to account for all the symptoms; but as several circumstances were rather singular, we agreed to consult another person, who was particularly conversant with the diseases of women. Dr. Clarke was accordingly called in.

After examining the part, he thought the disease was independent of the uterus and its appendages. I believe his opinion was, that a pouch had formed in the intestine, containing a large quantity of hardened fæces, which so pressed down as to fill the cavity of the pelvis. He ordered her cathartic medicines, which brought away a large quantity of fæces, part of which were very hard and knotty: on the

following day there was a large discharge of healthy-looking pus mixed with mucus, from the rectum; and she was so much relieved as to say, when we came to see her, that she was perfectly well. She took the cathartic pills every day, for some time, so as to procure daily two or three evacuations: she likewise took a light bitter infusion.

The last time I examined her, which I think was on the 29th of December, there was yet a very considerable tumour remaining, with a discharge of pus from the rectum; but in every other respect she seemed well. Soon after this she left Islington, since which I have not heard from her.

About a fortnight prior to my seeing Mrs. D. she sent for me; but, being absent from home, Mr. Shirley was applied to, who tells me she had only a kind of colic, which was soon relieved by emptying the bowels.

Mrs. D. dates the origin of this complaint about two months earlier than the above period; when walking rather faster than usual, in Hatton Garden, she on a sudden felt something snap within her, which produced so much pain for some time as to oblige her to go into a house to sit down. The pain was then just above the left groin: it appeared to me exactly in the situation of the ligamentum rotundum, and has continued there ever since, being sometimes a little easier.

Although this case has so far terminated favourably, yet I believe it is by no means certain what the disease exactly was; I think, from many circumstances, that it was not a disease in the intestines. Is it possible to rupture the ligamentum rotundum from any muscular exertion? If it be, might not the inflammation succeeding that, produce suppuration? And might not the collected matter, from its gravity, burst into the rectum?

Islington,
March 30, 1799. J. JEAFFRESON.

Art.

Art. 6. *Miscellaneous Intelligence.*

DR. PEARSON'S LETTER ON THE EFFECTS OF INOCULATING THE VACCINE DISEASE.

SIR, *Leicester Square, Mar.* 12, 1799.

I HOPE you will pardon me for taking the liberty to inform you, by way of additional evidence to the testimonies I have published on the subject of the cow-pox, that upwards of one hundred and sixty patients, from two weeks to forty years of age, principally infants, have been inoculated since the 20th of January last, by Dr. *Woodville* and myself, separately.

I shall at present only communicate the following observations.—1st. Not one mortal case occurred.—2d. Not one of the patients was considered to be dangerously ill.—3d. Although the extreme cases of the severe kind, which ordinarily occur in the same number of cases in the inoculated small-pox, did not occur in the above practice, and although many of the patients were even more slightly disordered constitutionally, yet the whole amount of the constitutional illness seemed to be as great as in the same number of patients in the inoculated small-pox.—4th. None of the patients, namely, above sixty, hitherto inoculated for the small-pox, subsequently to the vaccine disease, took the infection.—5th. One of the most important facts is, that the local infection in the inoculated part, on the whole, was less considerable, and of shorter duration, than in the inoculated small-pox.—6th. In many of the cases eruptions on the body appeared, some of which could not be distinguished from the small-pox.

I have sent the matter of the cow-pox pustule, on the thread enclosed, in order, if you approve of the inquiry, to inoculate with it; and I entreat you to favour me with the result of your trials: but I must trouble you to apply the

test of inoculating with variolous matter, subsequently to the vaccine disorder.

I have the honour to be, Sir,
Your most obedient, and
Most humble servant,

To Mr. Kœnig, GEORGE PEARSON.
N° 20 Pater-noſter Row

P. S. I am happy to be able to state, that at Berkely Dr. JENNER has continued his trials of inoculation with vaccine matter, sent from London, with good success.

I ſhould have given you a more circumſtantial account of the cases here alluded to, but I think it unnecessary, as Dr. WOODVILLE has a pamphlet in the press on the subject.

LECTURES.

Dr. BAILLIE, of London, having for some time past determined to withdraw from the situation he has so long and honourably filled, as a public teacher of anatomy in Great Windmill Street, gave his last lecture (upon the absorbent vessels,) on Thursday the 11th of April. After the lecture, he addressed his pupils in words to the following purport:

" Gentlemen,

" Having finished my part of the present course of lectures, I now retire, after fifteen years service, from my situation as a public teacher of anatomy. My professional engagements, for more than twelve months past, have rendered it extremely inconvenient for me to continue to give lectures. But, I must confess there are other reasons, more powerful than this, which have determined me to make so painful a sacrifice: these, however, are such as it would be improper to explain in this situation.

" During the time I have had the honour to be engaged as a teacher, I have endeavoured faithfully to discharge my duty

duty to my pupils; and my defects have not been owing to a want of assiduity or desire to serve them. I shall still be interested in their prosperity, and will omit no opportunity of promoting the study of anatomy.

"Anatomical lectures will continue to be given here by Mr. Cruikshank, whose labours in the cultivation of this branch of science have long been well known;—and by Mr. Wilson, whose abilities promise that he will fill this situation, with great credit to himself, and advantage to the public.

"I thank you sincerely, Gentlemen, for the respectful and uniform attention with which you have honoured me. You have ever appeared much more desirous to overlook my defects, than to search them out.—I leave you with regret; but not without hope that I shall still live in your recollection and esteem."

Dr. Baillie was much affected in delivering this address, which was heard with the most profound attention. He then withdrew, amidst the loud and reiterated applause of a numerous company, consisting of nearly an hundred and sixty pupils. Dr. Clarke, Mr. Blizard, Mr. Lynn, Mr. Astley Cooper, and several other gentlemen of eminence in the profession, were also present.

We are happy to hear that Dr. Baillie's pupils have raised a subscription, amounting to upwards of an hundred guineas; which will be laid out in the purchase of a piece of plate, to be presented to him as a token of their respect for his private character, his professional talents, and his unrivalled abilities as a teacher.

Dr. Shaw proposes to begin his course of lectures on *Natural History*, at the Leverian Museum, on Wednesday, May 1, at one o'clock. The course, consisting of about twelve or fourteen lectures, will be read every Monday, Wednesday, and Friday, till completed.

MIDWIFERY.

M. HERBOLT, an eminent accoucheur at Copenhagen, thinks he has made a discovery highly interesting to humanity. Repeated experiments have convinced him that one of the most frequent causes of the apparent death of so many newborn children, arises from the trachea being filled with water; and that they might in general be saved, by giving them such a position that the water should run out. He says, that of thirteen children considered as dead, and which were committed to his care, twelve were restored to life by the above simple means.

INFANT ASYLUM.

A new institution, called the Infant Asylum, for preserving the children of hired wet-nurses, has been established in London, under the patronage of the QUEEN.

Dr. MAX. GARTHSHORE, Dr. THO. DENMAN, Dr. MICH. UNDERWOOD, are the Consulting Physicians:

Dr. JOHN CLARKE, Dr. RICH. CROFT, and Dr. ROB. BATTY, Physicians in Ordinary:

Mr. JAMES MOORE, Mr. JAMES WILSON, and Mr. JOHN GUNNING, Surgeons.

Although the *principal* design of this institution, is to preserve the lives of the children of HIRED WET-NURSES, and others, which are now sacrificed by premature weaning, and by being exposed to the neglect and ignorance of mercenary dry-nurses (it being stated by those who have the best means of information, that four-fifths of these destitute infants, though born with every appearance of health, die within the first year); it is also intended, as a *secondary object*, to remedy the great inconvenience which families frequently suffer, and the risks they incur, from the difficulty of obtaining healthy and reputable wet-nurses, and experienced dry-nurses.

GUY'S

GUY'S HOSPITAL.

Mr. LUCAS, jun. has been elected surgeon of Guy's Hospital, *vice* Mr. Lucas, sen. resigned.

DEATHS.

Professor GREN died at Halle, on the 26th of November 1798, aged 38 years.

Professor H. B. DE SAUSSURE, of Geneva, died on the 22d of January last, in the fifty-eighth year of his age.

Also at Pavia, the celebrated Abbé LAZZARO SPALLANZANI, Professor Royal of Natural History in the University, and Superintendant of the Imperial Museum, in that city; Fellow of the Royal Society of London; and Member of the Academies of Prussia, Stockholm, Göttingen, Turin, Padua, &c. &c.

At New York, Sept. 16, 1798, J. B. SCANDELLA, M. D. aged 28.

At New York, Sept. 19, 1798, ELISHA HUBBARD SMITH, M. D.

At Altona, Dr. UNZA.

At the British Museum, Dr. MORTON.

Mr. J. WOODCOCK, Assistant Surgeon to the first Regiment of Light Dragoons.

At Sunderland, Mr. WATSON, Apothecary.

At Canterbury, aged 88, W. CARTER, M. D.

At Beaminster, Dorsetshire, Mr. DUNNING, Surgeon and Apothecary.

At Exmouth, in Devonshire, Dr. FORD.

At Exeter, Mr. SANDERSON, Surgeon of the Somersetshire Militia.

At Barnstaple, Devonshire, Mr. S. ROBERTS, Surgeon.

At Baltinglass, Wicklow, Mr. ARMSTRONG, Surgeon to the Clare Regiment of Militia.

INTENDED

INTENDED PUBLICATIONS.

Dr. JENNER, who has recently called the attention of medical men to the Cow-pox, is preparing for the press some farther observations on that disease.

Dr. SHERWEN is printing Observations on the diseased and contracted Urinary Bladder.

Professor GILBERT, of Halle, has signified his purpose of continuing the Physical Journal of the late learned Professor Gren, under the new title of "Annalen der Physick."

GREN's System of Pharmacology is to be completed in the month of October 1799, from manuscripts which the Professor has left behind him.

Mr. WHITE of Manchester is said to be nearly ready for publishing "A Treatise on the Gradation of Man."

A translation of the Systema Naturæ of LINNE', from the last edition by Gmelin, and including the later discoveries of naturalists, is about to be put in the press by Dr. WILLIAM TURTON, author of the Medical Glossary. An introductory lecture, descriptive plates, and an explanation of the Linnean terms, will be prefixed to each department; and the natural productions of Great Britain will be marked by an asterisk. This work is intended to be comprised in four large octavo volumes; the first of which, containing the Mammalia, Aves, Amphibia, and Pisces, will probably be ready some time in the following autumn.

Mr. CHARLES BROWN purposes soon to print Observations upon the Anatomy and Physiology of the Teeth.

V.

The engraving of Mr. Simpson's tooth-instrument (Pl. I.) *must be placed opposite to page* 174.

THE

LONDON MEDICAL REVIEW

AND

MAGAZINE.

VOL. I. N° III. FOR MAY MDCCXCIX.

ACCOUNT OF NEW PUBLICATIONS.

ART. I. *Further Observations on the Variolæ Vaccinæ, or Cow-Pox.* By EDWARD JENNER, M.D. F.R.S. &c. Quarto, pp. 64. LAW, London. 1799. Price 2*s.* 6*d.*

THE author having perceived that the inquiry respecting the causes and effects of the vaccine disease was beginning to excite general notice, has lost no time in laying before the public such facts as have occurred to him since his other remarks were edited. He has here chiefly endeavoured "to point out the fallacious sources from whence a disease imitative of the true variolæ vaccinæ might arise, with the view of preventing those who may inoculate, from producing *a spurious disease*; and further, to enforce the precaution suggested in the former treatise on this subject, of subduing the inoculated pustule as soon as it has sufficiently produced its influence on the constitution." From a want of due discrimination and attention in these respects, unpleasant consequences might ensue, the real source of which, perhaps, would not be suspected. Dr. J. expresses his satisfaction

at having been able to establish the validity of his principal assertion,—" that the cow-pox protects the human body from the small-pox;" and suggests, that certain facts, reported to have been unfavourable to this conclusion, appear, on making proper examination, to have been extremely equivocal, or " cases of spurious cow-pox."

The sources of a spurious cow-pox are stated to be,

" 1st. That arising from pustules on the nipples or udder of the cow; which pustules contain no specific virus.

" 2dly. From matter (although originally possessing the specific virus) which has suffered a decomposition, either from putrefaction, or from any other cause less obvious to the senses.

" 3dly. From matter taken from an ulcer in an advanced stage, which ulcer arose from a true cow-pock.

" 4thly. From matter produced on the human skin from contact with some peculiar morbid matter, generated by a horse."

On these subjects Dr. Jenner offers the following remarks: " First—To what length pustulous diseases of the udder and nipples of the cow may extend, it is not in my power to determine; but certain it is, that these parts of the animal are subject to some variety of maladies of this nature; and as many of these eruptions (probably all of them) are capable of giving a disease to the human body, would it not be discreet for those engaged in this investigation to suspend controversy and cavil, until they can ascertain with precision what *is* and what *is not* the cow-pox?

" For example.—A farmer who is not conversant with any of these maladies, but who may have heard of the cow-pox in general terms, may acquaint a neighbouring surgeon that the distemper appears at his farm. The surgeon, eager to make an experiment, takes away matter, inoculates, produces a sore, uneasiness in the axilla, and perhaps some affection of the system. This is one way in which a falla-

fallacious idea of security, both in the mind of the inoculator and the patient, may arise; for a disease may thus have been propagated from a simple eruption only.

"One of the first objects then of this pursuit, as I have observed, should be, to learn how to distinguish with accuracy between that peculiar pustule which is the *true* cow-pock, and that which is spurious. Until experience has determined this, we view our object through a mist. Let us for instance suppose, that the small-pox and the chicken-pox were at the same time to spread among the inhabitants of a country which had never been visited by either of these distempers, and where they were quite unknown before; what confusion would arise! The resemblance between the symptoms of the eruptive fever and between the pustules in either case would be so striking, that a patient, who had gone through the chicken-pox to any extent, would feel equally easy with regard to his future security from the small-pox as the person who had actually passed through that disease. Time and future observation would draw the line of distinction.

"So I presume it will be with the cow-pox until it is more generally understood. All cavilling, therefore, on the mere report of those who *tell us* they have had this distemper, and are afterwards found to be susceptible of the small-pox, should be suspended. To illustrate this, I beg leave to give the following history:

"Sarah Merlin, of the parish of Eastington in this county, when about thirteen or fourteen years of age lived as a servant with farmer Clarke, who kept a dairy consisting of about eighteen cows, at Stonehouse, a neighbouring village. The nipples and udders of three of the cows were extensively affected with large white blisters. These cows the girl milked daily, and at the same time she assisted, with two others, in milking the rest of the herd. It soon appeared that the disease was communicated to the girl The

rest of the cows escaped the infection, although they were milked several days after the three above specified had these eruptions on the nipples and udders, and even after the girl's hand became sore. The two others who were engaged in milking, although they milked the cows indiscriminately, received no injury. On the fingers of each of the girl's hands there appeared several large white blisters, she supposes about three or four on each finger. The hands and arms inflamed and swelled, but no constitutional indisposition followed. The sores were anointed with some domestic ointment, and got well without ulcerating.

"As this malady was called the cow-pox, and recorded as such in the mind of the patient, she became regardless of the small-pox; but, on being exposed to it some years afterwards, she was infected, and had a full burden.

"Now, had any one conversant with the habits of the disease heard this history, they would have had no hesitation in pronouncing it a case of spurious cow-pox; considering its deviation in the *numerous* blisters which appeared on the girl's hands; their termination without ulceration; its not proving more generally contagious at the farm, either among the cattle or those employed in milking; and considering also that *the patient felt no general indisposition, although there was so great a number of vesicles.*

"This is perhaps the most deceptious form in which an eruptive disease can be communicated from the cow, and it certainly requires some attention in discriminating it. The most perfect criterion by which the judgment may be guided, is perhaps that adopted by those who attend infected cattle. These white blisters on the nipples, they say, *never eat into the fleshy parts*, like those which are commonly of a bluish cast, and which constitute the *true cow-pox*; but that they affect the skin only, quickly end in scabs, and are not nearly so infectious

"That which appeared to me as one cause of spurious eruptions,

eruptions, I have already remarked in the former treatise; namely, the transition that the cow makes in the spring from a poor to a nutritious diet, and from the udder's becoming at this time more vascular than usual for the supply of milk. But there is another source of inflammation and pustules, which I believe is not uncommon in all the dairy counties in the west of England. A cow intended to be exposed for sale, having naturally a small udder, is previously for a day or two neither milked artificially, nor is her calf suffered to have access to her. Thus the milk is preternaturally accumulated, and the udder and nipples become greatly distended. The consequences frequently are, inflammation and eruptions which maturate.

"Whether a disease generated in this way has the power of affecting the constitution in any *peculiar* manner, I cannot presume positively to determine. It has been conjectured to have been a cause of the true cow-pox, though my inquiries have not led me to adopt this supposition in any one instance; on the contrary, I have known the milkers affected by it, but always found that an affection thus induced left the system as susceptible of the small-pox as before."

Various cases are recited to illustrate the second position of Dr. Jenner, respecting the sources of spurious cow-pox: from these it seems evident, that "variolous matter may undergo such a change from the putrefactive process, as well as from some of the more obscure and latent processes of nature, as will render it incapable of giving the small-pox in such a manner as to secure the human constitution from future infection; although we see at the same time it is capable of exciting a disease which bears so strong a resemblance to it, as to produce inflammation and matter in the incised skin (frequently indeed more violent than when it produces its effects perfectly), swelling of the axillary glands, general indisposition, and eruptions."

The author inquires, "After this ought we to be in the smallest degree surprised to find, among a great number of individuals, who, by living in dairies, have been casually exposed to the cow-pox virus when in a state analogous to that of the small-pox above described, some, who may have had the disease so imperfectly as not to render them secure from variolous attacks? For the matter, when burst from the pustules on the nipples of the cow, by being exposed, from its lodgment there, to the heat of an inflamed surface, and from being at the same time in a situation to be occasionally moistened with milk, is often likely to be in a state conducive to putrefaction; and thus, under some modification of decomposition, it must of course sometimes find access to the hand of the milker in such a way as to infect him. What confusion should we have, were there no other mode of inoculating the small-pox than such as would happen from handling the diseased skin of a person labouring under that distemper, in some of its advanced and loathsome stages!"

A case having been communicated to the author by Dr. Ingenhousz, in which the small-pox was firmly believed to have succeeded to the vaccine disease, we are here informed that it is highly probable the patient was exposed to the cow-pox matter "when it had undergone the putrefactive change;" and this is inferred from a remark of Dr. Ingenhousz, viz. "that the sick cows at the farm gave out an *offensive stench from their udders*," as it is unusual for cattle to suffer from the disease so as to yield any sensible ill smell.

"3dly. That the first formed virus, or what constitutes the true cow-pock pustule," Dr. Jenner observes, "invariably possesses the power I have ascribed to it, namely, that of affecting the constitution with a specific disease, is a truth that no subsequent occurrence has yet led me to doubt. But as I am now endeavouring to guard the public as much as possible against erroneous conclusions, I shall observe,

that

that when this pustule has degenerated into an ulcer (to which state it is often disposed to pass, unless timely checked) I suspect that matter possessing very different properties may sooner or later be produced; and although it may have passed that stage wherein the specific properties of the matter secreted are no longer present in it, yet when applied to a sore (as in the casual way), it might dispose that sore to ulcerate, and from its irritation the system would probably become affected; and thus, by assuming some of its strongest characters, it would imitate the genuine cow-pox.

"From the preceding observations on the matter of small-pox when decomposed, it must, I conceive, be admitted, that cow-pox matter in the state now described may produce a disease, the effects of which may be felt both locally and generally, yet that the disease thus induced may not be effectual in obviating the future effects of variolous contagion.

"4thly. Whether the cow-pox is a spontaneous disease in the cow, or is to be attributed to matter conveyed to the animal, as I have conceived, from the horse, is a question, which though I shall not attempt now fully to discuss, yet I shall digress so far as to adduce some further observations, and to give my reasons more at large for taking up an opinion that to some has appeared fanciful. The aggregate of these observations, though not amounting to positive proof, forms presumptive evidence of so forcible a kind, that I imagine it might on any other person have made the same impression it did on me, without fixing the imputation of credulity.

"First. I conceived this was its source, from observing that where the cow-pox had appeared among the dairies here (unless it could be traced to the introduction of an infected cow or servant), it had been preceded at the farm by a horse diseased in the manner already described, which horse had been attended by some of the milkers.

"Secondly.

"Secondly. From its being a popular opinion throughout this great dairy country, and from its being insisted on by those who here attend sick cattle.

"Thirdly. From the total absence of the disease in Ireland and Scotland, where the men-servants are not employed in the dairies.

"Fourthly. From having observed that morbid matter generated by the horse frequently communicates, in a casual way, a disease to the human subject so like the cow-pox, that in many cases it would be difficult to make the distinction between one and the other.

"Fifthly. From being induced to suppose from experiments, that some of those who had been thus affected from the horse resisted the small-pox.

"Sixthly. From the progress and general appearance of the pustule on the arm of the boy whom I inoculated with matter taken from the hand of a man infected by a horse; and from the similarity to the cow-pox of the general constitutional symptoms which followed.

"From the similarity of symptoms, both constitutional and local, between the cow-pox and the disease received from morbid matter generated by a horse, the common people in this neighbourhood, when infected with this disease, through a strange perversion of terms, frequently call it the cow-pox. Let us suppose, then, such a malady to appear among some of the servants at a farm, and at the same time that the cow-pox were to break out among the cattle; and let us suppose, too, that some of the servants were infected in this way, and that others received the infection from the cows. It would be recorded at the farm, and among the servants themselves wherever they might afterwards be dispersed, that they had all had the cow-pox. But it is clear that an individual thus infected from the horse, would neither be for a certainty secure himself, nor would he impart security to others were they inoculated by virus thus generated.

generated. He still would be in danger of taking the small-pox. Yet were this to happen before the nature of the cow-pox be more maturely considered by the public, my evidence on the subject might be depreciated unjustly."

Dr. Jenner's observations are here illustrated and exemplified by a detail of cases. We select the following as a specimen, related by Mr. Fewster, Surgeon, of Thornbury, who was perfectly well acquainted with the cow-pox on the human subject:

"William Morris, aged thirty-two, servant to Mr. Cox of Almondsbury, in this county, applied to me the 2d of April 1798. He told me, that four days before he found a stiffness and swelling in both his hands, which were so painful, it was with difficulty he continued his work; that he had been seized with pain in his head, small of the back and limbs, and with frequent chilly fits succeeded by fever. On examination, I found him still affected with these symptoms, and that there was a great prostration of strength. Many parts of his hands on the inside were chapped, and on the middle joint of the thumb of the right hand there was a small phagedenic ulcer, about the size of a large pea, discharging an ichorous fluid. On the middle finger of the same hand there was another ulcer of a similar kind. These sores were of a *circular* form, and he described their first appearance as being somewhat like blisters arising from a burn. He complained of excessive pain, which extended up his arm into the axillæ. These symptoms and appearances of the sores were so exactly like the cow-pox, that I pronounced he had taken the distemper from milking cows. He assured me he had not milked a cow for more than half a year, and that his master's cows had nothing the matter with them. I then asked him if his master had a *greasy* horse? which he answered in the affirmative, and further said, that he had constantly dressed him twice a day for the last three weeks or more, and remarked, that the smell of

his hands was much like that of the horse's heels. On the 5th of April I again saw him, and found him still complaining of pain in both his hands, nor were his febrile symptoms at all relieved. The ulcers had now spread to the size of a seven shilling gold coin; and another ulcer, which I had not noticed before, appeared on the first joint of the fore-finger of the left hand, equally painful with that on the right. I ordered him to bathe his hands in warm bran and water, applied escharotics to the ulcers, and wrapped his hands up in a soft cataplasm. The next day he was much relieved, and in something more than a fortnight got well. He lost his nails from the thumb and fingers that were ulcerated."

The general symptoms described by Dr. Jenner, when the vaccine disease has been communicated in the casual way to any great extent, will, he says, be found accurate; but from the very slight indisposition which ensues in cases of inoculation, where the pustule, after affecting the constitution, quickly runs into a scab spontaneously, or is artificially suppressed by some proper application, he is induced to believe that the violence of the symptoms may be ascribed to the inflammation and irritation of the ulcers; and that the constitutional symptoms which appear during the presence of the sore, while it assumes the character of a *pustule only*, are felt but in a very trifling degree.

A case is detailed, in which some of the cow-pox pustules on the arm so exactly resembled the general appearance of the inoculated small-pox, that no difference whatever could be perceived between them.

As the cases of inoculation multiply, Dr. J. is more and more convinced of the extreme mildness of the symptoms arising merely from the primary action of the virus on the constitution, and that those symptoms which (as in the accidental cow-pox) affect the patient with severity, are entirely secondary, excited by the irritating processes of inflam-

inflammation and ulceration; and it seems highly probable that this virus possesses an irritating quality of a peculiar kind: "but as *a single cow-pox pustule* is all that is necessary to render the variolous virus ineffectual, and as we possess the means of allaying the irritation, should any arise, it becomes," the author tells us, "of little or no consequence."

"It appears then (as far as an inference can be drawn from the present progress of cow-pox inoculation), that it is an accidental circumstance only, which can render this a violent disease, and a circumstance of that nature, which fortunately it is in the power of almost every one to avoid. I allude to the communication of the disease from cows. In this case, should the hands of the milker be affected with little accidental sores to any extent, every sore would become the nidus of infection, and feel the influence of the virus; and the degree of violence in the constitutional symptoms would be in proportion to the number and to the state of these local affections. Hence it follows, that a person, either by accident or design, might be so filled with these wounds from contact with the virus, that the constitution might sink under the pressure.

"Seeing that we possess the means of rendering the action of the sores mild, which, when left to chance, are capable of producing violent effects; and seeing too that these sores bear a resemblance to the small-pox, especially the confluent, should it not encourage the hope that some topical application might be used with advantage to counteract the fatal tendency of that disease, when it appears in this terrific form? At what stage or stages of the disease this may be done with the most promising expectation of success, I will not pretend now to determine. I only throw out this idea as the basis of further reasoning and experiment.

"I have often been foiled in my endeavours to communicate the cow-pox by inoculation. An inflammation will sometimes succeed the scratch or puncture, and in a

few days disappear without producing any further effect. Sometimes it will even produce an ichorous fluid, and yet the system will not be affected. The same thing we know happens with the small-pox virus.

"Four or five servants were inoculated at a farm contiguous to this place, last summer, with matter just taken from an infected cow. A little inflammation appeared on all their arms, but died away without producing a pustule; yet all these servants caught the disease within a month afterwards from milking the infected cows, and some of them had it severely. At present, no other mode than that commonly practised for inoculating the small-pox has been used for giving the cow-pox; but it is probable this might be varied with advantage. We should imitate the casual communication more clearly, were we first, by making the smallest superficial incision or puncture in the skin, to produce a little scab, and then, removing it, to touch the abraded part with the virus. A small portion of a thread imbrued in the virus (as in the old method of inoculating the small-pox), and laid upon the slightly incised skin, might probably prove a successful way of giving the disease; or the cutis might be exposed in a minute point by an atom of blistering plaster, and the virus brought in contact with it. In the cases just alluded to, where I did not succeed in giving the disease constitutionally, the experiment was made with matter taken in a purulent state from a pustule on the nipple of a cow.

"In the present early stage of the inquiry (for early it certainly must be deemed), before we know for an absolute certainty how soon the virus of the cow-pox may suffer a change in its specific properties, after it has quitted the limpid state it possesses when forming a pustule, it would be prudent for those who have been inoculated with it to submit to variolous inoculation. No injury or inconvenience can accrue from this; and were the same method

prac-

practised among those, who from inoculation have felt the small-pox in an unsatisfactory manner at any period of their lives, it might appear that I had not been too officious in offering a cautionary hint in recommending a second inoculation with matter in its most perfect state.

"And here let me suppose for argument's sake (not from conviction) that one person in an hundred, after having had the cow-pox, should be found susceptible of the small-pox, would this invalidate the utility of the practice? For, waving all other considerations, who will deny that the inoculated small-pox, although abstractedly it may be considered as harmless, does not involve in itself something that in numberless instances proves baneful to the human frame?

"That in delicate constitutions it sometimes excites scrofula, is a fact that must generally be subscribed to, as it is so obvious to common observation. This consideration is important.

"It should be remembered that the constitution cannot by previous infection be rendered totally unsusceptible of the variolous poison; neither the casual nor the inoculated small-pox, whether it produces the disease in a mild or in a violent way, can perfectly extinguish the susceptibility. The skin, we know, is ever ready to exhibit, though often in a very limited degree, the effects of the poison when inserted there; and how frequently do we see among nurses, when much exposed to the contagion, eruptions, and these sometimes preceded by sensible illness! Yet should any thing like an eruption appear, or the smallest degree of indisposition, upon the insertion of the variolous matter on those who have gone through the cow-pox, my assertions respecting the peculiarities of the disease might be unjustly discredited."

The author adduces the communications of several practitioners in support of his assertion, that the vaccine disease secures persons from afterwards receiving the variolous infection;

fection; he then points out some remarkable varieties between the matter and progress of the cow-pox in London and in the country, the chief of which are as follows:

1. Many patients in London have been affected with vaccine eruptions, which maturated very similar to the variolous; whereas maturated pustules have *never* been seen by Dr. J. in the country, either in the casual or inoculated cow-pox.

2. The arms of persons who have been inoculated in the country were more disposed to erysipelatous inflammation than in London. This, the author thinks, may be owing to some variety in the action of the virus upon the skin of patients who breathe the air of the metropolis, according to the peculiarities of their constitution.

3. The vaccine virus generated in London proved more certainly infectious than that produced in the country, and excited less inflammation in the arms of persons inoculated with it.

4. The pustulous appearance occasioned by the matter generated in London bore a nearer resemblance to the distinct elevation in the small-pox, than was observable from the virus formerly used by Dr. Jenner; although the matter always remained limpid till the period of scabbing.

A child, about twenty hours old, having been inoculated with vaccine matter, went through the disease without any apparent illness; and afterwards effectually resisted the action of variolous matter, with which it was also inoculated.

The cow-pox virus was likewise inserted in the arm of a boy, who, the preceding day, had sickened with measles. The eruption of the measles, attended with cough, pain in the chest, and the usual symptoms of that disease, appeared on the third day, and spread all over him; but the measles went through its course: the cow-pox, also, excited its common effects, both on the arm and in the constitution, without any apparent interruption. "Here we see a deviation from the ordinary habits of the small-pox; as it has been

been observed that the presence of the measles suspends the action of variolous matter."

We conclude this interesting article by stating, that the topical applications recommended against inflammatory and virulent pustules on the arms of inoculated patients, are caustic and escharotic substances,—ointment of nitrated mercury,—mineral and vegetable astringents,—lint soaked in Goulard's extract of lead,—and cloths dipped in very cold water. T.

ART. II. *Cases of the Diabetes Mellitus; with the Results of the Trials of certain Acids, and other Substances, in the Cure of the Lues Venerea.* By JOHN ROLLO, M. D. Surgeon-General, Royal Artillery. Second Edition, with large Additions. Octavo, pp. 628. DILLY, London. 1798. Price 8*s*.

THE former edition of this work having attracted a considerable degree of attention, Dr. Rollo has now reprinted it in a somewhat cheaper form, with various additional communications. "The observations on several diseases apparently arising from stomach affection, and including the application of the new doctrines of chemistry, as well as the description of a morbid poison formed on sores," are not now inserted; "but they will nevertheless continue to be prosecuted."

"Since the publication of the first edition," Dr. Rollo observes, "the history of the diabetes mellitus has been rendered more complete by the several communications we have received; and the nature of the disease, as not depending on a primary affection of the kidneys, has been confirmed by dissection. The experiments of Mr. Cruickshank on the difference between the *sugar of milk* and that of *diabetic urine*, with those recited among the considerations

of some of the objections urged against our doctrine, have also greatly contributed to support our opinions. The experiments of the same gentleman on urine and sugar, while they in some measure unfold the peculiar nature of each, will also assist in the general explanation of diabetes, as well as what relates to the urine of patients labouring under other diseases."

As it is probable some of our readers may yet be unacquainted with the doctrines inculcated in this work, we shall give a short analysis of it, as it now stands.

Captain Meredith, the subject of the first case, had been afflicted with diabetes upwards of seven months, when he put himself under the care of Dr. Rollo. He had been a corpulent man, and when in health weighed sixteen stone and eight pounds, but was now reduced to eleven stone and eight pounds. He was much debilitated; felt excessive thirst, and was frequently sick. His stools were of a greenish cast: his gums reddish. He had occasional headachs, and voided about twelve quarts of urine in twenty-four hours. From Mr. Cruickshank's experiments it appears, this quantity of urine contained twenty-nine ounces, troy weight, of a saccharine extract, somewhat thicker than molasses.

He was ordered to be bled, and the blood was kept for several months without undergoing any putrefactive process; while a portion of healthy blood, taken at the same time, and placed in the same room, exhibited evident marks of great putrefaction in four days, and was obliged to be thrown away on the seventh.

"For the six months preceding the attack of this disease he had vomited at least two or three times a week, and frequently brought up things, which he had taken several days before, unaltered, and the taste was generally sour."

All these circumstances led Dr. Rollo to conclude, that the disease depended on a changed and peculiar state of the stomach,

stomach, producing saccharine matter, and consequently attended with a defective assimilation of the food; so that although the kidneys were stimulated by this saccharine matter to a high degree of increased action, in which the whole system, and especially the absorbent vessels, appeared to participate, the complaint was not to be considered as originating in the kidneys, but almost wholly arising from the faulty state of the digestive organs. The patient was therefore directed to breakfast on milk with lime-water, and bread and butter; but at other times to confine himself to animal food alone, and chiefly to such as was fat, and had been long kept; to use little or no exercise; to have water in which kali sulphuratum was dissolved, as common drink; and to take a draught containing tartarised antimonial wine and laudanum, at night. The skin was to be anointed with hog's lard every morning; an ulceration of the size of half a crown to be made opposite to each kidney; and the bowels were to be kept open by pills composed of equal quantities of aloes and soap.

This mode of treatment was commenced on the 19th of October 1796. On the 21st, the quantity of urine was diminished to six quarts in the twenty-four hours, and by November the 1st to four quarts; it was also of a higher colour, and more urinous smell. Sulphur was now ordered instead of the pills, and fearing lest the alkaline salt in the kali sulphuratum might have some improper effect on the kidneys, Mr. Cruickshank proposed a trial of the hepatised ammonia; being of opinion it might prove more effectual in lessening the action of the stomach, and that of the system in general. Captain Meredith was therefore directed to take five drops of this in each half-pint tumblerful of water as drink; but as this made him sick, he was ordered to leave it off for one day, and then to begin with two drops to each tumblerful.

On the 4th of November he made only two quarts of

urine, which was not sweet, and deposited a reddish sediment. On the 5th the opiate was discontinued; and on the 8th the unction with hog's lard was left off. This being a disagreeable part of the treatment, it was dispensed with as soon as a decided change appeared to have taken place in the urine. Confinement, animal food, and the use of the hepatised ammonia, were still enjoined. The proportion of the latter, in each tumblerful of water, was gradually increased to five drops. November 26: The urine had a natural appearance, and was diminished to three half-pints in the day and night. An infusion of quassia with mineral alkali was now given, but the hepatised ammonia was nevertheless continued; two doses of it only being taken in the day, instead of four or five. 29th: One of the sores on the loins was healed and the other healing, and from this time the patient continued to recover. It was found that whenever he indulged himself with vegetable food the urine was increased in its quantity, and a portion of saccharine matter was reproduced. On the 18th of December, however, he was thought sufficiently well to be allowed half a pound of bread daily, which he ate without experiencing any inconvenience: the hepatised ammonia and the lime-water had been omitted a week before. January 4, 1797, he remained free of his complaint, and had since had no return of it whatever.

Mr. Cruickshank says that the hepatised ammonia is very easily prepared, "by making a stream of pure hepatic gas pass through the aq. ammon. pur. (Ph. Lond.) until no further absorption is perceived, or until the alkali is saturated. The hepatic, or sulphurated hydrogene gas, should be obtained for this purpose, from artificial pyrites, or sulphuret of iron, dissolved in the muriatic acid.

"The easiest method of making the artificial pyrites is, to raise a piece of iron in a smith's forge to a white heat, and then to rub it against the end of a roll of sulphur; the

iron,

iron, at this temperature, immediately combines with the sulphur, and forms globules of pyrites, which should be received into a vessel filled with water; those globules are to be reduced to powder, and introduced into the proof, to which a sufficient quantity of the muriatic acid is to be added.

"The dose, to an adult, should not at first exceed five or six drops, to be given three or four times a day, and this dose to be increased, so as to produce slight giddiness; but as it is a very powerful, and, in large doses, a dangerous medicine, great caution should be used in its exhibition; for the want of which our diabetic patient two or three times experienced much distress."

The second case related is that of a general officer, aged fifty-seven, of a spare habit, and who had been three years afflicted with the disease. He made from ten to twelve pints of urine daily, greatly loaded with saccharine matter, and had the same general symptoms as Captain Meredith, but with œdematous swellings of the feet and legs, and several other circumstances of an unfavourable aspect.

January 9, 1797. He was ordered to confine himself to the house, and his regimen to consist only of animal food, with boiled water, or light broth of beef or mutton, for common drink. No medicine was at first directed, except an emetic of ipecacuan, and a dose of castor oil, which was to be repeated occasionally. The quantity of urine was speedily diminished to less than two quarts, and without sweetness; but as his appetite continued excessive, the hepatised ammonia was commenced, in doses of three drops, to be gradually increased, and an opiate was given at night. The best effects followed this treatment, and by the 28th he was permitted to take some bread. This occasioned an increase in the quantity of urine, which was $4\frac{1}{4}$ pints by the following day, and again had a sweetish

taste: the former plan was therefore resumed, and with the same success as before.

It will not be necessary for us to give a further detail of particulars concerning this case, which is related with a very minute, and in some respects tedious, degree of accuracy. It will be sufficient to add, that by the 18th of February the patient was considered as having entirely lost the disease; but the following month it was brought on again, and continued by improper indulgences in diet, so that it terminated fatally on the 18th of August following. Notwithstanding the event was thus unfavourable, we think Dr. Rollo fully justified in observing, that all the circumstances of the case confirm the opinion he has advanced on the nature of the disease, and the method in which it ought to be treated.

The cases above mentioned are followed by a variety of communications from different practitioners, all tending to establish the same points. Among these is particularly to be noticed, a very minute account of the dissection of a diabetic patient, by Mr. H. Leigh Thomas. On all these communications Dr. Rollo has made remarks; he then proceeds to give an abstract of the opinions of former writers on diabetes, and more fully to state and defend his own. Under each of these heads the reader will find a number of pertinent observations, which we cannot help thinking might be abridged with advantage. Every one, however, will see that the medical world are under great obligations to Dr. Rollo and his colleagues, for the successful attempts they have made to elucidate this hitherto obscure and difficult subject.

To the observations on diabetes are subjoined some highly interesting experiments on urine and sugar, by Mr. Cruickshank, of which we shall proceed to give a short abstract.

The specific gravity of the urine is from 1005 to 1033; that of distilled water being 1000. Mr. Cruickshank found

found that by evaporation 36 oz. yield a residuum varying from 1 oz. to 1½. This consists of the muriates of potash and soda, the phosphats of soda, lime, and ammonia, the phosphoric and lithic acids, with animal extractive matter. Their relative proportions, in a healthy state, are nearly as follows:

	dr.	gr.
Muriatic salts — — —	1,	0
Phosphoric salts — — —	3,	50
Lithic acid, and phosphate of lime with excess of acid — — —	0,	25
Animal extractive matter — —	3,	40

"In recent urine the ammonial salts bear a very small proportion; but when it has become stale or putrid they are much more abundant. The phosphate of ammonia is the principal, although we have likewise met with the muriate of ammonia.

"The lithic acid and phosphate of lime are generally deposited, at least in a great measure, after the urine has become cold, and stood for some time; the quantity of the first varies exceedingly, but that of the last we have found, for the most part, nearly the same, the proportion being about one grain to two ounces.

"These substances may be easily distinguished by dissolving them in twice their weight of nitrous acid, diluted with a little water, and evaporating to dryness; the dry mass when hot will assume a beautiful deep rose or crimson colour, when the lithic acid is present, but will continue white if heated even to redness, or have only a slightly greenish tinge, when there is nothing but phosphate of lime. Their relative proportions may be ascertained by exposing the mixed mass for some time to a red heat in a crucible; in which case, the lithic acid will either burn out or evaporate, leaving the phosphate in a pure state."

The extractive matter yields, by distillation, only the common products of animal substances; but if to one ounce

of

of it, an ounce of concentrated nitrous acid be added, a violent effervescence takes place; and after the liquor has become cold, a considerable number of shining scales, of a flat rhomboidal figure, are deposited, which Mr. Cruickshank thinks contain an animal acid hitherto unknown, and whose basis exists in this extractive matter.

Mr. C. has stated the processes by which the different substances contained in the urine may be detected and separated; he adds the following observations, respecting its changes in particular diseases:

"In dropsy, the general disease may readily be distinguished from that depending on morbid viscera, by attending to the effects produced on this fluid by nitrous acid, and the corrosive muriate of mercury. In three cases which we have lately met with, the urine coagulated not only on the addition of nitrous acid, but likewise by heat; and in one of them, which proved fatal in six weeks, the urine at one time appeared to differ but little from the serum of the blood, so remarkable was the coagulation produced both by heat and acids. This coagulable state, however, must not be confounded with that produced by cantharides; for we have seen some cases of violent strangury from this cause, where the urine had the appearance of a mass of hydatids *.

"In the dropsy proceeding from diseased liver and other morbid viscera, the urine does not coagulate either by the nitrous acid or heat; it is usually small in quantity, high coloured, and deposits, after standing, a considerable quantity of a pink-coloured sediment; this peculiar sediment we consider as in some measure characteristic of diseased, or rather scirrhous liver. On examination, we found that it consisted of phosphate of lime, some animal matter, to which its red colour was probably owing, and a little lithic acid; this last, however, was in very small quantity.

* "The infusion of galls likewise coagulates this species of urine."

"In

" In inflammatory affections, particularly those of the chest, and acute rheumatism, the urine, during the active state of the disease, always affords an immediate precipitate with the corrosive muriate of mercury or alum, and sometimes also with the nitrous acid; when the disease takes a favourable turn, this effect will in a great measure cease, and the lateritious sediment makes its appearance.

" In fevers, particularly such as are accompanied with a strong action of vessels, similar phenomena may be observed; but in this case the lateritious sediment, which never fails to make its appearance at the crisis or abatement of the disease, is much more remarkable and constant; and the nitrous acid, when added to the urine before the deposition takes place, gives it a pretty deep red tinge.

" In gout too, the termination of the paroxysms is most perfectly indicated by a copious lateritious sediment; and when this suddenly disappears, and the urine at the same time affords a precipitate with the muriate of mercury, a fresh attack or relapse may be expected.

" We have examined several portions of this sediment, and have generally found it to be composed of lithic acid, phosphate of lime, and some peculiar animal matter, but little soluble in water: it has by some been supposed to consist entirely of lithic acid; but this substance, for the most part, constitutes by far the smallest part.

" In jaundice, the state of the disease may be ascertained by examining the urine, in which a very small quantity of bile may be detected by the nitrous or muriatic acids, but more particularly the latter. When, therefore, the urine ceases to become green on the addition of these acids, we may infer that the obstruction to its passage into the duodenum is removed, and that, consequently, the yellowness of the skin, &c. will soon disappear.

" The spasmodic affections that take place in many nervous complaints, are immediately indicated by the urine;

for, upon the approach of these, it will most generally be found very transparent, large in quantity, and abounding in saline, but containing hardly any extractive matter. Similar appearances have been observed to precede delirium in fevers. This state may be discovered by the infusion of oak bark, with which it will hardly give any precipitate, and by the acetite of lead, which will produce a very copious one."

The experiments on sugar are important, and are related with great clearness and accuracy; but as it would rather be foreign to our design to insert them at length, we shall only subjoin the following conclusions, which seem fairly deducible from them:

"1st. That sugar consists of carbone, hydrogene, and oxygene; and may be considered as a pure vegetable oxyde.

"2d. That sugar of milk is composed of the same principles, but contains more oxygene, and considerably less charcoal.

"3d. That gum differs from sugar in containing, besides carbone, hydrogene, and oxygene, both lime and azote.

"4th. That vegetable farina cannot be converted into saccharine matter, without the joint action of oxygene and water; the first of which appears to be absorbed, and the last decomposed, during this process.

"5th. That when sugar is deprived of its oxygene, or combined with other substances, it loses its characteristic properties, and is no longer susceptible of the vinous fermentation.

"6th. That neither vegetable nor animal mucilages, in their pure state, are susceptible of this process.

"From a review of the whole, the propriety of the different medicines which have been employed in diabetes must be obvious, more particularly the pure alkalies, lime-water, and the different sulphurets, all of which must counteract the formation of saccharine matter in the stomach.

"We also readily see the necessity of a diet, consisting entirely

entirely of animal food, being the only one which does not furnish oxygene, and that peculiar, but simple combination of carbone and hydrogene, constituting the basis of sugar, and without which it cannot be produced."

Exclusive of the cases of *Diabetes Mellitus* detailed in this volume, the author has subjoined an APPENDIX, wherein he gives a superficial account of thirteen more: the whole number, therefore, which he has either seen or heard of since January 1797, amounts to "forty-eight and upwards." From hence it may be inferred, that this disease (generally deemed fatal) occurs more frequently than has been commonly supposed; and, of course, that its treatment merits particular attention. We hope, the abstract here given of Dr. Rollo's observations will induce our readers to consult the original work; as it was not possible to render it ample justice in the compass of a few pages.

The SECOND PART exhibits the result of the trials made by the surgeons of the artillery, with nitrous acid and other substances containing a large proportion of oxygene, in the cure of the lues venerea. In the present edition of this work many new and interesting cases are related, in which these remedies were employed; so that the total number of patients stated to have been cured by them in the Woolwich hospital, since the beginning of March 1797, amounts to 155, of whom thirteen had the secondary symptoms of the disease. "This small number of secondary cases," Mr. Cruickshank observes, "proves in a great measure the certainty and efficacy of this mode of treatment: for as Dr. Wittman employed these remedies in all venereal affections, whatever their nature might be, had the cures not been perfect, the secondary disease must have been very common; besides, of the thirteen, three only could be ascribed to this cause, and these were all afterwards cured by the oxygenated muriate of potash. Of the remaining ten, four appeared to be

the natural consequence and progress of the disease, and six followed a course of mercury."

Of the patients with primary symptoms it appears, from a table given to show the whole evidence in one view, that 128 were affected with chancre, and 78 with bubo. Of the patients with secondary symptoms, two were affected with sore throat, nine with eruptions, and four with nodes. The remedies which were given to them were as follow:

Remedies employed.	*Number of Patients.*
In the Primary Disease.	
Nitrous acid	54
Oxygenated muriate of potash	54
——— manganese	3
——— muriatic acid	4
Lemon-juice	3
Nitrous acid and oxygenated muriate of potash	7
Ditto and oxygenated muriate of manganese	1
Mercury and the new remedies combined	16
Total	142
Secondary Disease.	
Nitrous acid	5
Oxygenated muriate of potash	5
——— manganese and potash	1
Nitrous acid and oxygenated muriate of potash	2
Total	13

As the effect of the new remedies in *secondary symptoms* has been chiefly disputed, and is that by which their antivenereal properties will most probably be estimated, we shall insert the five following cases, which were of this description. They were all under the care of Dr. Wittman.

"*Gunner Buchanan* was admitted into the hospital the

16th

16th September 1797, with a paraphymosis, and a large, deep, ill-conditioned venereal chancre upon the prepuce. He said these complaints began to appear about three weeks ago; he then was at Chatham, where he took a few mercurial pills. He was ordered the nitrous acid, from one to two drachms daily. The saturnine lotion to be applied to the sore.

"A few days after his admission into the hospital some venereal eruptions began to appear upon various parts of his body. He was ordered to continue with the nitrous acid.

"*October 8th.* A fresh crop of eruptions appeared yesterday; the former ones have left a copper-coloured stain upon the skin. The chancre nearly healed. The saturnine lotion and the nitrous acid to be continued.

"*October 30th.* He was discharged cured.

"*Driver Donally* was admitted into the hospital, 1797, with a large venereal chancre upon the prepuce and glans penis. This man had been quartered at Lewes, in Sussex. The surgeon, who had the care of him, treated him with mercury for a considerable time, but could not heal the sore; he was therefore sent up to Woolwich. Upon his admission into the hospital, mercury again was had recourse to, but without effect: he at length became subject to severe headachs, pains in his legs; and venereal eruptions began to appear upon various parts of his body. At this time he was ordered the nitrous acid, from one to three drachms daily, joined with a decoction of bark. A great variety of topical applications were employed during the cure, among which were the hydrogene and carbonic acid gasses, and with apparent benefit. He continued with the nitrous acid and bark a considerable time, until the sore, eruptions, and pains, were completely removed. He was discharged the hospital cured."

It is rather singular, that in this case no dates at all should have been given. Dr. Wittman apologizes for this by

saying, "it was a long and troublesome case, though shewing decidedly the efficacy of the nitrous acid."

"*Gunner Porter* was admitted into the hospital the 10th September 1797, with several venereal chancres upon the prepuce and glans penis; these complaints, he said, began to appear two weeks ago. He was ordered to take the solution of the oxygenated muriate of manganese, to the quantity of eight drops three times daily; the dose to be slowly augmented, and the sores to be washed with the saturnine lotion.

"16*th*. The patient complains of sore throat; and on examination, we perceive a tumefaction and ulceration of the tonsils. We suspect the history respecting the commencement of the disease to be incorrect, as the ulcers in the throat appear to be venereal. The patient was to omit the use of the preparation of manganese, and take only small doses of bark. The chancres were ordered to be washed with the saturnine lotion.

"20*th*. The ulceration of the tonsils spreads; we can no longer doubt of their nature: he was ordered ten or fifteen drops of the oxygenated solution of the muriate of manganese four times daily; the saturnine lotion to be continued.

"24*th*. The chancres are healed; no alteration in the throat: he was ordered twenty drops of the solution four times daily; the dose to be augmented.

"*Oct*. 4*th*. He has got to sixty drops of the medicine each dose, without any inconvenience: the throat is better: he is to continue as before.

"15*th*. Since last report he has been in a very fluctuating state, sometimes better, and sometimes worse; he was attacked yesterday with severe pain in the right elbow; there is some little swelling about the joint, accompanied with pain upon motion. It was agreed that the drops should

be omitted, and he was ordered the compound powder of ipecacuanha, from ten to fifteen grains three or four times daily.

" 22*d*. The ulceration in the throat appears stationary; the elbow is perfectly cured. It was agreed to try the effects of the oxygenated muriate of potash two or three weeks; and provided no particular benefit was derived from that substance, then we should have recourse to mercury. He was ordered ten grains of the muriate four times daily; the dose to be gradually augmented.

" *Nov*. 3*d*. The sore throat better: he has taken twenty grains of the salt four times a day, with which he is to continue.

" 6*th*. He has inflammation of the right eye, with headach; the skin is hot; the pulse is quick and firm: he was ordered to lose eight ounces of blood from the arm; to take a dose of purging salts, and apply the saturnine lotion to the eye; and the oxygenated muriate to be omitted.

" 7*th*. The inflammation of the eye is no better. A small blister to be applied behind the ear, and to take four grains of antimonial powder at bed-time.

" 9*th*. The eye is painful, and the inflammation of it continues: the blood-letting, cathartic, and antimonial powder, to be repeated.

" 18*th*. The ophthalmy is removed; the ulceration of the tonsils has spread since the salt was omitted: he was ordered ten grains of it again four times daily; and the dose to be gradually augmented.

" 26*th*. The throat is better: he takes twenty-five grains of the salt four times in the day. The tongue is white. The medicine to be continued.

" *Dec*. 18*th*. Throat nearly well: he takes 160 grains of the oxygenated muriate daily, with which he is to continue.

" 20*th*. A small fresh ulcer began to appear since yesterday:

day: he was ordered to gargle his throat with a strong decoction of oak bark.

"*Jan.* 13*th*, 1798. He was discharged the hospital, cured.

"*Gunner Lishman* was admitted into the hospital the 25th January 1798, with a large and deep venereal chancre upon the glans penis, at the extremity of the urethra; he had also phymosis: he said these complaints began to appear several weeks ago. He was ordered the nitrous acid, from one to three drachms daily; the sore to be dressed with the oxygenated ointment.

"*Feb.* 4*th*. The chancre is healing; the ointment does not give pain; the nitrous acid to be continued.

"11*th*. This morning the patient imprudently forced back the prepuce, and has brought on paraphymosis; the sore is painful, and does not look healthy: the saturnine lotion to be very frequently applied; and he was ordered repeated doses of laudanum, and to keep in bed.

"12*th*. The inflammation and swelling are increased; the sore is also foul and painful. Fourteen ounces of blood were directed to be drawn from the arm; the saturnine lotion to be continued; the carbonic acid gas to be applied twice daily, from fifteen to twenty minutes each time; and the laudanum to be taken freely.

"19*th*. The sore continues to spread; the inflammation extends upon the penis. He was ordered the oxygenated muriate of potash, twenty grains four times daily; the bark and the laudanum to be taken freely.

"20*th*. He has passed a better night: the inflammation is abated. He was ordered to continue his medicines and applications as yesterday.

"21*st*. The sore is painful and enlarged. He was ordered twenty-five grains of the oxygenated muriate four times daily, and to continue with the other medicines and applications as before.

"24*th*.

" 24*th*. The sore is more easy; a slough from the ulcer was removed with the dressings this morning. The wax ointment to be applied; the bark, laudanum, and oxygenated muriate, to be continued.

" *March* 1*st*. The sore has a healthy appearance: the medicines to be continued; and the sore to be washed with the solution of nitrated mercury.

" 24*th*. The sore is healed; he has several venereal eruptions upon his face, breast, and arms: the bark and the salt to be continued.

" *April* 9*th*. The eruptions are removed; but they have left a dark-coloured mark upon the skin. He was discharged the hospital.

" *May* 18*th*, 1798. Several of the venereal patients, who had been discharged some time ago, were ordered to the hospital to be examined, in order to ascertain whether they remained free from relapse, &c. Gunner Lishman was among this party. I found upon various parts of his body a fresh crop of eruptions, similar to those which he had while under cure: he said these began to appear several weeks ago; and that he was otherwise in good health: he was admitted into the hospital on the evening of the 18th of May, 1798, and ordered the oxygenated muriate of potash, from fifteen to twenty-five grains four times daily.

" *June* 9*th*. The eruptions have disappeared, except two spots on the elbow; he has neither nodes, or sore throat. The salt to be continued.

" *July* 4*th*. He was discharged cured.

" *Driver Christley* was admitted into the hospital the 12th February 1798, with a large ill-conditioned ulcer upon the pubis: he had neither chancres nor bubo; but we suspected the sore to be venereal. It was ordered to be dressed with wax ointment.

" *Feb*. 16*th*. The sore is no better. He was ordered the

the nitrous acid, from one to a drachm and half daily.

" *March* 23*d*. The sore is healed.

" 28*th*. He was discharged.

" *May* 20*th*. He accompanied the party of men brought to the hospital for examination: he had several venereal eruptions upon the arms, &c. and sore throat, with a small ulcer upon each tonsil: he is become rather deaf, and complains of pains in his legs: he was ordered the oxygenated muriate of potash, from fifteen to twenty-five grains four times daily.

" *June* 6*th*. The eruptions have left a copper-coloured stain upon the skin. The salt to be continued.

" *June* 26*th*. He was discharged cured."

On the two last cases great stress is laid; but we are not told whether they have been examined at any distance of time since the second appearance of the disease. Dr. Wittman remarks, that Driver Christley's sore was not positively known to be venereal, and therefore the acid was not pushed as it ought to have been; and to this he attributes the occurrence of his secondary symptoms.

On a subject, concerning which medical men are yet so much divided, we shall, at present, give no opinion. Dr. Rollo has avoided any reply to his opponents, whose failures he imputes to a want of the same management which has been adopted at Woolwich, in the administration of these remedies. " We have observed," says he, " with regret, in the alledged failures of others, that our management has not been strictly pursued. We are desirous, however, to avoid any particular remarks on the evidence of others, in this part of our subject, as we wish rather to rest on our own personal testimony." (Preface, p. 8.)

It is certainly reasonable to expect that, in order to ascertain the efficacy of any mode of treatment, it should be conducted as much as possible on the same plan its advo-

cates

cates recommend: Mr. Cruickshank has therefore pointed out some facts, which appear to deserve the notice of such practitioners as may be inclined to make further experiments.

"In the first place, it sometimes happens, that in certain constitutions the oxygenated muriate passes off by urine undecomposed, and produces but little or no effect, either on the disease or constitution, much in the same way as mercury runs off by the bowels. In these cases the patients generally complain of heat of urine, which they void frequently, and in large quantities; whenever, therefore, such symptoms occur, the urine should be examined by evaporating, and then separating the saline from the extractive matter by spirits of wine and repeated crystallization. This being done, the oxygenated salt may readily be detected by the figure of the crystals, and by its detonating when thrown upon red hot coals. In order to remedy this defect, we have proposed, that each dose of the salt should be immediately followed by ten or fifteen drops of some acid, diluted with water; and for this purpose the muriatic has been preferred, although the nitrous might answer equally well, as either of them decomposes the oxygenated muriate with great facility. This inconvenience is generally met with in scrophulous constitutions, where the extractive matter in the urine is naturally but small, or where the medicine has been given in very large doses, as thirty grains or more four times a day, a quantity, however, which we believe to be very seldom necessary. It may be remarked, that in our first cases we commenced with very small doses, as four or five grains, but are now satisfied that ten or fifteen may be given four times a day at the very beginning. This quantity should be gradually increased to twenty-five, or at most to thirty grains, according to circumstances; and whenever we suspect, from the want of action on the system or disease, that it is not decomposed, it ought immediately to be joined

with an acid, which seldom or never fails of having the desired effect *.

"Another circumstance meriting attention, and which not unfrequently follows the use of these remedies, more particularly the oxygenated muriate of potash, is an eruption on the skin of a dull red colour, not very unlike venereal blotches. They may, however, be distinguished from these by the floridness of the colour, the itching with which they are accompanied, and their disappearing without throwing off scales, or leaving any livid or copper-coloured marks. These spots never made their appearance but when the patients were under the full action of the medicine, and generally went off in two or three weeks, under a continuance of the same treatment.

"In one instance, where mercury had been given from the beginning, and very freely, along with the oxygenated muriate, the body was at one time covered with them, and they disappeared about the usual period. This in a great measure proves that they are not venereal.

"A third observation which we would make respecting these remedies is, that they have always acted with the greatest certainty and quickness, where the system has been reduced. This would seem to point out the propriety of evacuations, more especially by blood-letting, in all full and robust habits, previous to their exhibition. In confirmation of this, we may observe, that in every instance where these have been employed, the practice has been attended with manifest advantage.

"Of these different remedies employed, we formerly gave the preference to the oxygenated muriate of potash, and we are now more convinced of its superiority; for there have

* "This medicine, in our opinion, should always be given in solution. The method of giving it in a solid form is certainly objectionable."

been

been many cases where it has succeeded much better than the nitrous acid.

" We were naturally led to suppose that a combination of these remedies with mercury would be more efficacious and certain than either alone; or, at least, that much less mercury might be necessary. Accordingly, about thirteen cases were treated in this way, but the result did not altogether answer our expectations; for, although a few of the cures were accomplished in a very short time, the greater part proved rather tedious. There have been, indeed, a few instances, where, after the constitution had for some time been fully under the action of the new remedies, mercury has been given; and in these it appeared to have completed a cure very quickly. It is possible that this may be the most advantageous mode of combination.

" We do not presume to account for the numerous failures which have been recorded, but suspect that they are to be ascribed either to some irregularity or impropriety in the administration of the remedies, or to a want of perseverance and steadiness in the practitioner or patient. It is also proper to remark, that in these failures the remedies were too seldom varied, so that when one did not answer immediately, it was dropped, and mercury had recourse to. Now, we are confident that much of our uniform success has been owing to the method which was very early adopted, of changing the preparation whenever it seemed to produce no further effect on the disease or constitution. In this way a number of cures were quickly obtained by the oxygenated muriate of potash, where the nitrous acid, &c. had not so immediately succeeded.

" We shall conclude these remarks with observing, that one of the two following positions must be admitted—*Either these remedies cure the lues venerea, or in ninety-nine cases out of a hundred the disease cures itself.* Our opponents may take which side they choose; for, on either supposition, mer-

cury must be unnecessary: and this is our principal object."

Thus confidently do Mr. Cruickshank and his colleagues express their opinion, that the evidence they have brought forward "*completely establishes the efficacy of the new remedies, in the secondary as well as in the primary states of the disease.*" (Preface, p. 8.) R.

ART. III. *A Collection of Testimonies respecting the Treatment of the Venereal Disease by Nitrous Acid.* Published by THOMAS BEDDOES, M. D. Octavo, pp. 277. JOHNSON, London. 1799. Price 5*s*.

THE cases presented to the public by Dr. Beddoes in this volume were anxiously expected for a considerable time before they appeared, both by the advocates for the nitrous acid and those who discredit its efficacy. Dr. B. attributes the delay of this publication to the failure of his correspondents; and observes, as we can readily believe, that the formation of the collection has proved a tedious and inconvenient task. The materials are indeed numerous; many of them, however, are valuable, and well deserving the attention of all who are interested in the issue of this important controversy.

The first seventeen pages contain copies of Mr. Scott's letters on the nitric acid, which were printed in the Bombay Courier, and two private letters from Mr. Scott to Dr. Beddoes; in the last of which, dated October 20, 1797, Mr. Scott professes himself of opinion, that he had attributed too powerful effects to nitric bathing; but the good effects of its internal use he sees daily confirmed, and believes "that *no case can resist it* when properly administered for a sufficient time."

Next follow some communications from Dr. Trotter, physician

sician to the fleet, among which are three cases transmitted by Dr. Browne, surgeon of Sir A. Gardner's flag-ship: the first of them we shall insert, as it appears to be one of the most decisive in the whole book.

"*Tyson Wilson*, seaman, aged about thirty, was the first patient on whom the acid was tried: he had contracted a venereal complaint, about four years before, at Liverpool, and undergone a regular course of mercury, by which he was apparently cured. But from that time he had been frequently attacked with what was deemed rheumatism, and was once sent to Haslar hospital for this disease. Suspecting a lurking virus, I had frequently administered mercury, so as to excite ptyalism, and continued it for some time. A course of this kind, with decoct. lignor. had been tried for near four weeks, without any apparent advantage whatever; so that when he began to take the acid, he had large nodes on the tibia of each leg, so exquisitely sensible, that the slightest touch made him cry out; a large glandular swelling under his chin, ulcerated and discharging a thin, acrid, greenish, fœtid matter; nodes beginning on his arms; swellings in the joints of the fingers; copper-coloured, dry, crusty scabs over his head; constant fever; high-coloured urine; no appetite; nocturnal pains, so severe, that two grains of opium seldom procured him an hour's rest; hectic sweats, and very great debility.

"It was my intention to have sent him again to Haslar hospital, when you put Dr. Beddoes' first account of the nitric acid into my hands: I thought him a proper subject. Mercurial medicines were immediately left off, and I procured some of the best nitrous acid to be found in Portsmouth. He began by taking a mixture of seventy drops, in a quart of water, by wine-glassfuls, in the course of twenty-four hours. Having heard me conversing in the sick birth with the young gentlemen, concerning this new medicine, he was strongly prepossessed in its favour; and, like

like a true sailor, thought the more he could take the better, and the sooner he should get well; so that at six o'clock, our usual hour of visiting the sick, his bottle was empty. I was rather displeased at his hurry; but, as he felt no uneasiness about his stomach, comforted myself that he had not taken too much. Next day I increased the quantity to ninety drops, and every day afterwards added twenty drops, till he took two hundred and twenty, which I found as much as his stomach could bear.

"On inquiring how he was, the morning after the first bottle; he said he had been in heaven (his own phrase) all night, that he had six hours sleep, and felt much stouter. About the sixth day, I think, to his great surprise and my satisfaction, he could allow me to handle the nodes freely, so much was their sensibility diminished. In short, the cure went on as favourably as could be wished, the abscess healed, the nodes gradually disappeared; and in twenty-eight days, on the 14th of May, he returned to his duty, a stronger and healthier man than he had been for four years before. The only inconvenience he experienced during the use of the acid was an *ardor urinæ*, for which he drank linseed tea. He often complained that he had too much appetite, and that he had not time enough, during the night, for sleep. Since his discharge from the list, he has enjoyed uninterrupted good health, notwithstanding our having been almost constantly at sea for the last six months."

Three cases are furnished by Dr. Carrick, which were successfully treated by the nitric acid. Of these, two were relapses after a mercurial course; the third was not evidently venereal, but the acid was given because the patient was strongly persuaded from his own feelings that venereal symptoms were about to reappear. The state of his health was much improved by the acid, and his fears of course entirely done away. Dr. Carrick thinks that "the acid

appears

appears better adapted to cases of long standing than primary affections, and promises to be of infinite service where the long-continued exhibition of mercury has both debilitated the constitution, and impaired its powers over the virus."

After an extract from Dr. Swediaur's second volume, the following case is given from Mr. Bryer of Weymouth:

"A private soldier of the Oxford Blues was attacked with chancres in the usual way, and which, from his not applying for relief in due time, spread rapidly; venereal ulcers and blotches also appeared in other parts of his body, particularly the perinæum and groin: when I saw him the disease had existed between four and five months; he was then a shocking object, his face and neck being covered with ulcers of that peculiar appearance which always marks the venereal disease; one large one in particular nearly surrounded the orbit of the left eye, rendering the bone carious. Bark, opium, cicuta, mercury in all its forms, &c. had been tried, separate or together, without producing the least good effect, or at all stopping the progress of the ulcers; he was so much emaciated, that he was unable to move without assistance, and we expected that death would soon relieve him from his torments. — We directly began the acid, omitting every thing else; during the first four or five days he evidently grew worse, but after that time his amendment was wonderful, and in about three weeks from the first use of the medicine, he was so far recovered, as to be able to go as an *outside* passenger on the coach, to join his regiment."

Mr. Blair's circular letter is next inserted, at which Dr. Beddoes and his friend Dr. Geach appear to have taken great offence. A letter from Dr. Geach, referring to this, and written with some warmth, precedes a communication of forty cases from Mr. Hammick, jun. Of these, thirty-six were successful, one unsuccessful, and three were cured by the sulphu-

ric acid. A patient was likewise treated successfully with the phosphoric acid.—The thirty-second case deserves particular attention:

"*James Stokes*, seaman, twenty-two years of age, was received into the Royal Hospital, on the 2d of September 1797, for a venereal complaint, contracted eight weeks since; the first appearance was a gonorrhœa, and its attendant symptoms, which ceased on his using an injection, on board; a swelling then came on in each groin, which dispersed on his taking some mercurial pills, that excited a ptyalism; he then returned to his duty, and he remained well about a fortnight; that ten days since a chancre appeared, half way down, on the right side of the penis, for which he had not taken any medicine, nor used any topical application: he says he has had the venereal disease three times before; the last time he suffered much; the chancre, which is now foul and large, occupies a great part of the right side of the penis: the following day he was ordered, ℞ acidi nitrosi ʒij, Syr. sim. ℥x, Aq. font. ℔ij. M. et bibat quotidie. The chancre was dressed with the ung. sperm. ceti. September 17th, the chancre spreads, looks foul, and is much inflamed; the tonsils of the throat are enlarged and painful; nitrous acid increased to three drachms daily: 28th, the chancre increases; excoriations broke out on the scrotum, the throat painful, and a black thick crust covers the whole of the root and middle of his tongue, without pain, but has the appearance, like as if the tongue had been stained with coffee, or if he chewed the juice of liquorice; nocturnal pain of his limbs deprives him of sleep till dawn of day; ordered to continue the nitrous drink, and a linseed meal poultice to the part: 30th, poultice discontinued, as he complains of its producing pain; the man is become very anxious to use the mercurial friction, as his complaints have increased so much since his taking the drink; nevertheless, knowing from experience the efficacy of the nitrous acid,

acid, he was persuaded to continue its use, and apply to the chancre the sperm. cet. ointment: October 7th, chancre has not spread these last two days, pains less, excoriations drier, but the black crust on his tongue remains, and a small ulcer has broken out on his upper lip; the nitrous drink continued: 15th, chancre healing rapidly, excoriations less, pain in swallowing gone; drink ordered: October 23d, chancre healed, nocturnal pains, excoriations, and ulcer on the upper lip, well, but his tongue remains as before; drink discontinued: 28th, since forbearing the drink on the 23d, the black crust is nearly gone from his tongue, and the man, being perfectly well, was discharged from the Royal Hospital on the 28th of October.

"*N. B.* It is worthy remark, that this man's chancre and venereal complaints got worse under the nitrous acid for thirty-five days, and, though the chancre was then very large, it healed completely in sixteen days from its shewing a disposition; the quantity taken was 100 drachms."

The unsuccessful case related by Mr. Hammick is as follows:

"*William Denham*, seaman, about twenty-seven years of age, was received into this hospital, the 29th day of July 1797, for a chancre on the glans, for which he had rubbed on his thighs such a quantity of mercurial ointment as to produce a copious ptyalism, on board: the chancre did not yield; now foul and deep, it occupies the side of the glans penis; his mouth is ulcerated from the mercury, and he spits freely: the 30th he was ordered, ℞ acidi nitrosi ʒiß. Sy. sim. ʒviij, Dec. lignor. ℔ij. M. et bibat quotidie. The chancre was dressed with the ung. sperm. cet. August 10th, chancre clean, mouth better, spitting less; ordered to continue the drink. 19th, mouth nearly well, spitting ceased, chancre healed to within the size of a common pea; continued the acid drink, and sperm. cet. dressing. September 1st, chancre the same, discharge of matter from

the urethra; continued the nitrous drink, and he threw up the following injection: ℞ acidi nitrosi gtt. iv, Aq. font. ℥viij. M. f. inj. 4th, nitrous acid increased to two drachms daily. 11th, the chancre the same size, discharge of matter from the urethra thicker; topical applications used to the part, and perservered in the drink. 19th, nitrous acid increased to three drachms daily; chancre as before. 21st, running from the urethra ceased, injection discontinued, proceeded with the nitrous drink. 25th, chancre the same, drink continued. October 2d, chancre the same, drink persisted in. October 4th, as the chancre has remained in the same state (about the size of a small pea,) with an healthy appearance, notwithstanding topical applications, ever since the 19th day of August, and the nitrous acid taken to the extent of *one hundred and twenty-six drachms;* the man solicitous to renew the mercurial friction, it was ordered, and he rubbed five successive nights two drachms of the ung. hydrargy. fort. A copious ptyalism followed, the chancre spread under its use, but in about six days it relented and healed. The man recovered his health and strength, and was discharged, perfectly cured, on the 9th day of November."

Six cases of gonorrhœa cured by nitrous acid, under the care of Mr. Hammick, jun. are next inserted. The following case, communicated by Mr. Laurence of Liskeard, is certainly very remarkable.

"*J*—— *M*——, a female, æt. thirty-eight, was placed under my care in January 1797. She had laboured under syphilis upwards of ten years; during this time she had taken incalculable quantities of mercury, from the hands of a number of practitioners, in the course of which salivation had been more than once excited. She had now discontinued every sort of medicine for several months; and from circumstances, it was very improbable that there had been any recent infection.

"When

"When I saw her, the following was briefly her situation: from the joint of the right shoulder there reached posteriorly, over almost the whole extent of the scapula, innumerable little sinuous ulcers, characterized by the hard and *livid* margin, so proper to the disease, and by that peculiar discharge which strikes an impression, sui generis, on the olfactories; the trapezius was indeed a mere honeycomb;—she had nodes on the tibia of each leg, great striesure across the forehead, painful and restless nights, impaired appetite; in short, her general state of health was much deranged, and her aspect truly morbid.

"I put her immediately on the use of the nitric acid, beginning with half a drachm, diluted to the taste, twice in the day, and dressed the ulcers superficially with the common unguentum ceræ. I purposely forbore the adoption of any other medicine or application, in order to give the acid a fair trial.

"At the expiration of a week I ordered the dose to be increased to a drachm *bis indies*, remarking no particular alteration in the condition of the ulcers; but the patient thought her head and shins were not so painful, and her two last nights had been better.

"*Pergat in usu acidi, ut antea præscripti.*

"At the end of another week I saw her again, when you will readily guess the pleasure with which I noticed the following change in her symptoms: the edges of the ulcers were beginning to lose their *livid* appearance, and to substitute a *fresh florid colour*; three or four of the smallest were almost closed in; the fœtor of the discharge was also sensibly diminished; her nocturnal pains had been greatly alleviated; her sleep was comparatively good, and her appetite much improved.

"As no collateral ill consequences arose from the acid, but, on the contrary, the best effects appeared to follow its use, I persisted in the employment of it until (I have great

satisfaction in being able to say) a complete cure was effected; the ulcers being perfectly healed, the exostoses of the tibia and the stricture of the forehead thoroughly removed, and the general state of health fully re-established.

"She came under my management the 2d of January, and was discharged from it the 16th of March, 1797. Thus, in less than three months, the cure of a case was completed by the nitrous acid, that had resisted the powers of mercury for more than ten years."

Eight successful cases are then recited by Mr. Vaughan May; and afterwards several by other practitioners, which are mostly in favour of the nitrous acid: but a letter from Dr. CARMICHAEL of Birmingham states, that he has "in *no instance* been able to effect a cure," although he prescribed this remedy "in various stages of the disease." As this gentleman's experience differs so materially from that of Dr. Beddoes's correspondents in general, we conceive it will assist the reader in forming a just opinion of the new practice, to lay this whole communication before him.

"*Letter from Dr. Carmichael.*

"Dear Sir,

"Soon after I heard of Mr. Scott's report of the power of nitrous acid over the lues venerea, I began to prescribe it in various stages of that disease; and, although I have in no instance been able to effect a cure, I have more or less persisted in this practice. To this I have been induced by the attention which has been called to this subject by the numerous cases laid before the public, where this new medicine is reported generally to have proved a speedy, safe, and effectual remedy. I have sometimes ordered the nitric, sometimes the nitrous acid, generally from the specific gravity of 1.550 to 1.000; but in their effects I have not been able to distinguish any difference. In one case I prescribed the hyperoxygenated muriate of potash, in compliance with the recommendations which have been given of it; but the result

result of that trial was not such as to induce me to give it to others, even if I could have prepared it with less trouble or risk to myself. Those to whom I have given the acid have observed, that its use was attended by a sensation of warmth at the stomach, an improvement of the appetite, and, in general, an increased secretion of urine.

"Although my attempts to cure venereal complaints by nitric or nitrous acids have not been attended with that success which the reports of others led me to expect; I am nevertheless ready to admit, that this new remedy is not altogether destitute of powers in such cases. Of what those powers are, I shall state to you the following reports; and I hope the unprejudiced will admit the trials to have been sufficient.

"The diluting medium, which I have directed, has been either water alone, or water-gruel, which I recommended with the intention of more accurately ascertaining the effects of a new medicine. In most of the cases where success is reported to have attended the use of the acid, considerable quantities of sugar have been given by way of rendering the medicine more palatable; but it is not improbable that this addition may be of more consequence than has hitherto been suspected. The reports of Dr. Geach and Mr. Hammick, when compared with mine, confirm this suspicion. Those gentlemen and myself have given the acid in nearly equal quantities; they have added larger portions * of syrup —I have diluted with water, or water-gruel only: they have seldom failed to cure the disease, while in no one instance have I succeeded.

"Recent cases of the venereal disease seldom came under my notice. In those which follow, the constitutions of my patients were affected. In one instance excepted, the

* "From eight to twelve ounces of simple syrup daily, which of pure sugar is equal to from five ounces and a half to half a pound."

primary

primary disease had yielded to mercury; but the quantity given proving insufficient to eradicate the infection, the throat, skin, and bones had become affected.

"In the excepted case, a poor female had laboured under syphilis for five years, without using any remedy. She was reduced to the utmost distress. The genitalia were in one continued ulcer, and the skin was covered with scabs, which, in some places falling off, left beneath foul ulcerations. She was much emaciated. Her appetite and strength were greatly impaired, and pains of the head and extremities deprived her of rest. She took of the nitric acid, at first, ʒiß, and afterwards ʒii, properly diluted, for six weeks; but her sufferings were in no respect mitigated. It was, therefore, omitted; and she took of oxygenated muriate of potash, from ℈vß to ℈vj, beginning with doses of five grains, four times a day, which were soon increased to a scruple at the same intervals. From this remedy she did not experience more relief; but as her appetite and general health were somewhat recruited by rest and a more generous diet, I determined to make a further trial of oxymuriated kali *; and for this purpose I proposed a solution of potash, impregnated under strong pressure nearly to the point of crystallization, with the fumes of oxygenated muriatic acid; and of this excessively volatile and unpalatable liquor she took ʒij daily, for three weeks, but without deriving from its use any of those good effects which report had so loudly extolled. Hopes of cure by this method were now abandoned, and the disease soon yielded to mercurial friction.

"The next case, which I shall notice, was that of another female, who had ulcerated throat, and considerable degree of inflammation of the tunica conjunctiva of both

* "In the common way of preparing this salt a very small quantity of crystals is obtained; but where strong pressure is used, the whole, or nearly the whole, of the potash may be oxygenated or crystallized."

eyes

eyes spreading upon the cornea. The upper cluster of glands of the left groin was considerably enlarged, and she had a slight discharge from the vagina. The inguinal induration was evidently the produce of fatigue from walking, a day or two previous to my seeing her, and entirely subsided in a few days after; but her other symptoms were permanent. She took of the nitric acid ʒiß, diluted with water-gruel, and persevered in its use for six weeks; but her throat had not altered in appearance, and her ophthalmia had evidently gained ground. The acid was therefore laid aside, and mercurial friction soon effected a cure.

"*Sarah Keeling*, when she applied for relief at the Birmingham general hospital, had her tonsils extensively ulcerated, her shoulders and face occupied by a copious eruption, and on each tibia a very painful enlargement. Five months had elapsed since the origin of her complaints, and she had taken no mercury. The nitric acid was directed in doses of ten drops, six times a day, diluted with water-gruel, and soon increased to double that quantity. At the end of three weeks, the enlargements of the tibiæ suppurating, she applied to be admitted into the house. On the first night after admission, and on that only, she rubbed about ʒi of mercurial ointment upon the inside of her thigh; but on the day thereafter, she recommenced the use of the acid, and persevered for three months, and for a considerable part of that time took ʒiij daily. Her sore throat, eruption, and ulcerated tibiæ, were now healed; but pains of her head, shoulders, and legs, which originated during the use of the acid, gave her much uneasiness. She remained in the house three weeks longer, taking the acid, without any alleviation of her pains, when she was made an out-patient, and took Peruvian bark and salt of steel, but without benefit. Mercury was at last had recourse to, and her pains were removed, and her health re-established.

"*Thomas Keeling*, when he applied to me for relief, had

had the back part of his throat and tonsils extensively ulcerated, and complained of excruciating pains, which affected his head, shoulders, and extremities. He informed me, that his throat had been sore for six weeks, but that two months previous to his present complaints he had had a small sore on the prepuce, which had soon yielded to the means which had been employed. For his present complaints he had taken no medicines.

" I directed him to take fifteen drops of nitrous acid, in half a pint of water-gruel, four times a day, which was augmented to a hundred and twenty, and soon thereafter to a hundred and eighty drops in the same time. At the end of six weeks the sores of his throat looked cleaner, and in size were somewhat contracted; but his pains were not alleviated; and, although he persevered for a month longer, his ulcerations were but little reduced, and his pains were equally distressing. After such a trial, I could not persist longer in a plan which held out such prospects.

" *William Vale* had extensive ulceration of the tonsils, and back of the throat, and a copious eruption, occupying especially the face, shoulders, breast, and arms. These symptoms had appeared six weeks previous to his application to me; but he had used no means for their removal. As in the last case, he took first sixty, then a hundred and twenty, and at last a hundred and eighty drops of nitrous acid, diluted sufficiently with water-gruel, in the space of twenty-four hours. After eight weeks perseverance the back of the throat was considerably better; but the tonsils, still ulcerated, had contracted a knotty, irregular, callous appearance; and the eruption, with some trifling variation, continued as when I first saw him. He continued the same plan for three weeks longer, without further perceptible advantage, when I recommended him to use mercury. I saw no more of my patient for three months, when he applied at the hospital to be cured of what he imagined to

be rheumatism. His throat was better than when I last examined it, and his eruption was less copious; but pains of his head, arms, and legs, which he had had for two months, were become so distressing, as to demand all his attention. He had not used any mercury, as had been directed. I had no inducement to try the acid further in this case; he was therefore directed mercurial frictions, and was rapidly recovering, when it was found necessary to discharge him from the house, on account of repeated irregularities.

"I remain, dear Sir, yours sincerely,

"*Birmingham, 10th July* 1798. "J. CARMICHAEL.

"To Dr. BEDDOES."

Dr. CURRIE of Liverpool writes an interesting account of his trials with the acid: in some cases it succeeded; but in "*a still more considerable number,*" he says, "*it entirely failed, or produced only partial benefit.*" In the cases in which it succeeded, observes Dr. C. "it evidently irritated the system in the following respects:

"1. The gums were always affected with tenderness and redness, and the action of the salivary glands increased. This affection may indeed be considered as depending on its local action; for it took place in one case, where, for the sake of the experiment, the acid was taken into the mouth, but not swallowed. This state of the gums, &c. was not attended by fœtor, as during the action of mercury; neither did it increase as the acid was continued, but in a little while disappeared. This affection of the gums and salivary glands did not always appear in the cases where the acid failed.

"2. In every case in which it succeeded or operated beneficially, there was a considerable increase of urine, and this discharge became turbid; sometimes of a whitish and sometimes of a brownish hue; it amounted to about eight pounds in the twenty-four hours. But the discharge of

urine did not go on increasing under the continued use of the acid; on the contrary, it ceased like the increased discharge of saliva. The affection of the kidneys seemed to precede the affection of the salivary glands; but both the one and the other occurred by the fifth day at latest.

"3. The patients had their appetites improved, and felt a greater alacrity of spirits.

"4. In all of them the pulse was rendered more frequent, and the animal heat towards evening increased from one to two degrees, which in the night was generally carried off by more or less of sensible perspiration.

"I think that these symptoms have not appeared at all, or not in combination, where the acid has seemed to be inert."

It would be extending our account of this collection to a greater length than our limits will justly allow, were we to give a detail of all the communications of which it consists. We shall therefore only in general observe, that the whole number of cases which are particularly specified is one hundred and twenty-nine; of these, ninety-five are successful and twenty-four unsuccessful. The successful cases are *seventy-one of primary*, and *twenty-four of secondary affections*: the unsuccessful are *one of primary*, and *twenty-three of secondary affections*. Beside these, others of each description are mentioned in general terms by several correspondents, whose conclusions are very deserving the reader's attention.

Of the latter part of this volume we shall take no particular notice, as it is chiefly made up of strictures on Mr. Blair's late publication; some of which come from the pen of Dr. Beddoes himself, and others from a friend whose name is not mentioned. We are sorry, however, to remark that neither Dr. Beddoes nor his friend appear to have written their animadversions with that spirit of moderation which is so highly desirable in controversial publications,

and

and which we are persuaded more mature consideration would have inclined them to adopt. N.

ART. IV. *Essays on the Venereal Disease and its concomitant Affections.* By WILLIAM BLAIR, A. M. Surgeon of the Lock Hospital and Finsbury Dispensary, &c. *First Part of the First Essay:* On the Antivenereal Effects of Nitrous Acid, and other analogous Remedies; exhibiting a Summary of the Evidence adduced by various Practitioners, with sixty-one original Cases. A new edition, corrected. Octavo, pp. 252. JOHNSON, London. 1799. Price 4*s*.

WE have for some time been in expectation of seeing the *second part* of Mr. Blair's essay on the nitrous acid, &c. Mr. B. informs us that he hopes very soon to receive the remaining cases promised by his correspondents, which will enable him to bring it to a conclusion. In the mean while, he has found it necessary to republish the first part.

We do not discover that it is much altered from the former edition; but the following remarks in the preface, it will be proper for us to insert:

"The uncommon success of several surgeons, in their late experience with the acid (especially at the Woolwich hospital,) has induced me to select a few well-marked examples of lues venerea, for the purpose of repeating my observations, and of discovering any error or defect there might possibly have been in my practice last year. But no alteration whatever has taken place in my opinion, in consequence of these renewed trials: I therefore still conclude that the advocates for the acid are greatly deceiving themselves, and that too little discrimination has been used in ascertaining the *real* merits of Mr. Scott's plan. As a general substitute for mercury in the treatment of syphilis, it is certainly

inadmissible. Its efficacy may be most depended on, in cases where a venereal taint is least capable of proof.

"Although we are in possession of abundant evidence to establish the occasional utility of the oxygenated remedies, it does not yet appear, from the facts brought forward, that their *antivenereal* power is likely to be demonstrated. If every medicine which has been found beneficial in the ambiguous forms of lues venerea, were to be dignified with the appellation of "an antidote or a specific" against that disease, the class of antivenereals (*i. e.* medicines which destroy the syphilitic virus) would be augmented *ad infinitum*. In this sense of the term, which is too loose to be admitted, antivenereal remedies may be found in the animal, the vegetable, and the mineral kingdom: alkalies, as well as acids, at this rate, might be called *antivenereals;* and the greatest possible confusion would arise, in our pathological reasoning. But, the leading question is not, whether the number of antisyphilitic remedies shall be multiplied by the introduction of the acids, &c. which may be regarded as a matter of inferior consideration: the main point, I apprehend, is to determine whether or not mercury deserves to be banished, and the new plan of treatment adopted in its stead? This, surely, is the grand practical question at issue, the question originally agitated by Mr. Scott, and still remaining *sub judice*. How far the following statement of facts will go toward determining this point, must be left to the reader's judgment: it will be found, that of twenty-four cases, with primary symptoms of the lues venerea, *only two* were successfully treated; and of thirty-seven cases, with secondary symptoms, *not one* could be cured with the new remedies."

The author adds, that his subsequent experience, together with the communications he has received from various other practitioners, containing "the result of SEVERAL HUNDRED more trials," will be speedily laid before the public. P.

ART.

ART. V. DUNCAN'S *Annals of Medicine for the Year* 1798.

(Concluded from page 116.)

6. *The History of a Case terminating fatally, from a Concretion formed in the Bowels, in consequence of swallowing the Stones of Fruit.* By Dr. Charles Marshall Clarke, Physician, Lowth.

THIS unfortunate case points out how necessary it is to avoid the swallowing of fruit-stones; contrary to a vulgar error, that they are good for digestion, or that the fruit will never hurt provided you swallow the stones.

Mr. Withington, a tradesman, forty-eight years of age, of a strong habit of body, was suddenly taken ill of a violent pain in his bowels in the night-time. "His complaints," says Dr. Clarke, "continued most exquisite for two days before I saw him; during which time he had several clysters injected without any passage; they having returned just as thrown up. Fomentations he had also used, but without success.

"At my coming, I found him complain of most acute pain on the right side of the hypogastric region, and, as it appeared both to him and me, in one point. I examined the part with my hand, but found, neither there nor in any other part of the abdomen, any preternatural swelling or hardness. His pulse was slow and regular, such as is usual in health, without the least appearance of fever, except thirst sometimes. He ejected every thing that he swallowed except chicken-broth; and even this he kept only now and then. This vomiting began with his pain, and continued to the last, at intervals, unless when he had opiate clysters, which always stayed it, and gave him immediate ease and rest. On the contrary, those clysters that operated with any degree of stimulus, increased his pain exceedingly.

"Though I made use of every mean to prevent the inflammation

flammation before it came on, as also to check it after its appearance, yet all proved ineffectual. For, on the fourth day in the evening, I perceived a quickness and hardness in his pulse, which was succeeded by much heat and thirst; after which he sweated violently all night. These sweats, towards morning, became clammy; and, before noon, a coldness in the fingers and toes seized him, which gradually advanced to his hands, arms, feet, and legs. The pulse at the wrist grew weaker and weaker, until it became quite imperceptible; above the elbow it was still sufficiently strong; but as the coldness advanced it gradually died away, whilst the temporal arteries seemed not to lose any thing of their usual vigour for some time. Thus he gradually declined till the evening; when, about eleven o'clock at night, he died.

"Upon opening him, we found, on examining the intestines, a hard lump of something in the ileum, which seemed then to be moveable in some degree; but, above it, the gut was full of liquid fœces, in which flowed a number of the damascene stones, and appeared gangrenous and mortified, for about three or four inches above this hard substance, with a small breach in the mortified part, through which issued out the fœcal matter of the ileum. On examination, we found this substance to be a hard stony concretion, with protuberances something like the Rad. aristolochiæ rotundæ, or a moderate-sized potatoe, weighing one ounce and fourteen grains, of the colour of bezoar; and upon dividing it with a saw, we found a large plum-stone, with its kernel perfect in it, which, no doubt, was its nucleus, and the primary cause of its formation."

7. *Account of fourteen Men of the Royal Artillery, at Quebec, who were nearly poisoned by drinking a Decoction of certain Plants.* By George Longmore, M. D.

It appears that these men had drank for breakfast a very strong decoction of herbs, which one of them had gathered in the neighbourhood, as an Indian tea, in very general use among

among the lower class of inhabitants in Canada. In about from twenty minutes to an hour after drinking it, most of them were taken ill, and in the most imminent danger. The symptoms with which they were universally attacked, were, a lightness of the head, vertigo, a confusion of objects before the eyes, an inability to walk, and a sickness at the stomach, which soon increased to violent retching and vomiting; convulsions seized one man, producing gesticulations like those attending St. Vitus's dance. "In some cases the patient was much distressed after the sickness came on, before he could discharge the contents of the stomach. The pulse, in all, was small, slow, and irregular.

"In the worst cases the symptoms already mentioned were followed by cold sweats, and cold extremities. The countenance was pale, the features shrunk, the eyes fixed and glassy, with an intermitting pulse, at times scarcely to be felt. The respiration highly laborious, with low muttering and coma."

Plentiful draughts of hot water were at first ordered for each person, till a copious vomiting was excited; but as this plan could not be continued in those persons where the deleterious effects were alarming, warm stimulating clysters were administered, which produced copious evacuations, and hot Port wine and water was given, and in a short time they recovered. For the less urgent cases a solution of the *natron vitriolatum*, with compound tincture of lavender to make it more acceptable to the stomach, was ordered, with large quantities of water-gruel. Under this plan of treatment they all soon recovered.

On examining the plants which composed the decoction, three different genera of the class Decandria were found, viz. the *Ledum*, *Andromeda*, and *Gaulteria*. The first is very commonly used as tea by the inhabitants of that country, under the name of Labradore tea. The Andromeda is a rough and disagreeable bitter. The Gaulteria is more

pleasant and grateful; it is frequently used by the Canadians for tea, and is said to be a cooling and pleasant ptisan in fevers.

8. *The History of the Case of a Fœtus found in the right Ovarium.* By Dr. Forrestier, Chevalier of the Order of the King of France, Physician to his Army in North America, and First Physician to his Royal Highness Monsieur.

The subject of this case had not menstruated for six months:—she was seized with violent colic pains in her lower belly. No doubt having been entertained of her pregnancy, a man-midwife was called in, who prescribed a proper treatment, in consequence of which the pains were quieted during three weeks; then, however, they returned, with shiverings, fever, and a considerable loss of very black blood from the anus, mixed with hard clots of a fleshy appearance. The hæmorrhage continued, and was followed with fainting fits until she died, which was on the second day after her relapse.

"On examining the body after death, both the right and left iliac regions contained each a tumour. The uterus lodged in the left was of the size of a new-born child's head. It was of a whitish colour, all the blood-vessels appearing obliterated. Having opened it through its whole extent, we found its coats about an inch thick at the fundus, and gradually diminishing to its cervix. This organ, though a little dilated, approached a good deal to its natural state, and the cavity would hardly have contained a small hen's egg.

"The tumour which occupied the right side was next examined. It had the form, and was nearly the size of a large hog's bladder distended with air, and was attached intimately to all the neighbouring viscera.

"After having easily separated the adhesions of the tumour, except at the point corresponding to the sigmoid flexure

flexure of the colon, where a very firm adhesion was formed, Dr. F. proceeded to examine the Fallopian tubes. The left was in its natural state. Its opening into the uterus was free, though a little more difficult than in the sound condition of that organ. He then passed to the right tube, the canal of which was obliterated, and resisted the introduction of the smallest probe. The instrument seemed likely to penetrate into the tumour, but the resistance it met with was too strong not to make us afraid of occasioning a forced passage, which would have thrown uncertainty upon the result of our researches.

" Having made this examination, and being convinced that this tumour was nothing but the right ovarium prodigiously dilated; he opened it through its whole length, and found it filled with blood, and with clots resembling those which the patient had voided by the anus.

" Having directed the hand to the point of adhesion of the intestine with the tumour, we drew from it a very considerable clot, which had formed itself there. This confirmed us in the opinion of the existence of a communication between the tumour and the intestine. Prosecuting our researches farther with regard to the contents of the tumour, we felt bones, which we discovered to be the entire skeleton of a fœtus, almost totally putrid. The membranes, however, of the umbilical cord were not entirely in a state of putrefaction. By means of these we arrived at the placenta, which was placed to the right upon the bottom of the tumour.

" The extreme fœtor of this new matrix, and of the intestines, would not permit us to continue our researches any longer. But the formation and existence of the fœtus in the right ovarium were incontestably proved; and this was the essential object.

" The skeleton was fifteen inches long, and the ossification as perfect as that of any infant in the womb."

9. *Observations on the Pemphigus Major of Sauvages, with a brief Account of two Cases of that Disease.* By Dr. R. Hall, Physician, Jedburgh.

"That pemphigus is either a disease of rare occurrence, or that it is only of late the attention of medical practitioners has been excited towards it, is generally admitted. But whether it be contagious or not, seems, as yet, not so fully ascertained.

"In the months of July and August last, two patients, both adults, were affected with pemphigus; one in Dr. H.'s own family, and the other in a different quarter of the town.

"The complaint, in both patients, was ushered in and preceded by lassitude, nausea, and headach. To these symptoms soon succeeded restlessness, a sense of oppression about the præcordia, thirst, great frequency and irregularity of pulse, soreness of the throat, with some difficulty of deglutition, parched and foul tongue, and a præternatural heat of the skin.

"In both patients the fever assumed a remittent type, but in neither were the exacerbations or remissions distinctly marked.

"No similar complaint occurred at that time, either in the town or neighbourhood.

"In one case, new vesicles continued successively to appear until the 16th, and in the other, until the 10th day from the time of their first eruption. In the former, the phlyctænæ amounted to twenty-eight; in the latter, to not more than half that number. Their size, in general, considerably exceeded that of an almond; and in neither of the cases did any of them subside sooner than the sixth, seventh, or even the eighth day after their appearance.

"The serous fluid, with which these cuticular vesicles were filled, was in general absorbed into the system unless when discharged by a rupture from accident or exertion, in which case it was quickly replaced by a fresh collection.

"The vesicles in the latter case were wholly confined to the external surface of the body, whilst in the former much suffering and distress were induced by their presence on the tongue and fauces. The pharynx was, besides, inflamed. But there appeared no evidence, from which it could be inferred, that any part of the alimentary canal was affected with them.

"Each had, during the continuance of the disease, a frequent disposition to Leipothymia. But in the first case the intensity and recurrence of this, as well as of every other symptom, were much more formidable that in that of the other patient."

Dr. Hall then proceeds to state the reasons which favour the supposition of this disease being purely of a sporadic nature, and not contagious, as is the opinion of nosologists, who have hitherto classed it in the order of contagious exanthemata: these are, 1st. Each patient slept with others during the whole period of their illness. 2dly. There was no communication between the two families, they living at a considerable distance from each other, although both were affected at the same time. 3dly. No other person had the disease in the town or its vicinity. These circumstances being considered, we are of opinion, with the author, that they point out the propriety of suspending our judgment, and neither absolutely affirming nor denying the contagious character of the disease, until, by a cautious induction from a sufficient number of cases and observations, we shall be enabled to form a positive conclusion on the subject.

The THIRD SECTION of this volume includes several articles of *medical news*, viz.

1. Information from Dr. GUTHRIE, of Petersburg, respecting some diseases of the Russians, and other medical subjects.

2. A letter from Mr. DAVID PATERSON, navy surgeon, on the good effects of nitrous vapour, accompanied by several cases.

3. An account of some discoveries by Mr. PARK, the celebrated traveller, in Africa.

4. A letter from Dr. GARNETT, on the use of oxygenated muriat of potash, in cases of typhus fever.

5. Extract of a letter, "from unquestionable authority," mentioning two instances of the small-pox being communicated by inoculation to persons who had previously been affected with the *cow-pox*. As Dr. Jenner was made acquainted with the two cases here alluded to, we refer the reader to his late publication (a review of which is given in our present number, *Art.* 1. *p.* 207,) for an answer to such plausible objections. Were not these instances of the *spurious cow-pox?*

6. An account, by Dr. WITHERING, of a convenient method of inhaling the vapour of volatile substances; with an intimation of the beneficial effects of nitrous vapour in the typhus, according to Dr. C. Smyth's mode.

7. Notice of the good resulting from the exhibition of large doses of calomel in Cynanche trachealis.

8. An official publication to the medical practitioners of the French armies.

9. Suggestions from Dr. CAPPE of York, on the experience he had had of the effects of nitrate of silver, in the Angina pectoris, in Dyspnœa, in Epilepsy, in Hysteria, &c.

10. Notices of intended publications.

11. Deaths in the medical world.

12. State of the barometer, thermometer, and rain, in the year 1797; near Edinburgh, and in London.

13. Names of several members lately admitted into the Royal Society, the Royal Colleges of Physicians and Surgeons, and the medical faculty of the University of Edinburgh.

The remaining SECTION exhibits, as usual, a copious catalogue of new books relating to medicine.

G. V.

ART.

Art. VI. Lindemann's *Handbuch der Praktischen Arzneikunst.*

(Concluded from page 156.)

We proceed with our analysis of some of the practical parts of this work.

Dysentery.—The cure to be regulated by the nature of the fever. In the beginning of the complaint, ripe fruit, in moderate quantity, is very useful; emetics of antimonial wine, and a purge of tamarind whey, are also recommended. The author very judiciously cautions against the employment of stimulating purges, such as rhubarb, jalap, and aloes; but we think it strange that he should not have said something in favour of calomel and the common saline purges, all of which are useful in this disease, particularly in the beginning. When the symptoms denote any inflammation, he advises copious blood-letting, fomentations, and blisters. If the fever be of the *gastro-putrid* kind, he advises the bark, cream of tartar, the arnica montana, and other antiseptic remedies. In our opinion, wine, especially port wine, is one of the best remedies when the dysentery breaks out in a military hospital, where it generally assumes the character of a putrid fever. If it be suspected that the intestines are ulcerated, the diarrhœa is to be corrected by means of mucilaginous food and drink, and the Ext. ligni Campechen. with opium, together with Columbo root, and Angustura bark. The following also is highly recommended: ℞ Ceræ flavæ ʒij. Solve in balsam. sulphur. amygdal. ℥ij, super igne leni: ab igne remotis adde Syr. papav. alb. ʒj, Vitelli ovi rec. N° j. M. A tea-spoonful to be taken frequently.

Lues Venerea.—Gonorrhœa is first described in a very concise but clear manner. When this discharge has continued a long time, pains are frequently felt in the joints, which are similar to rheumatic pains. In the author's opinion lues venerea very seldom originates in gonorrhœa, and when

when it does so, he is inclined to believe, that the poison not only of gonorrhœa, but also of syphilis, has been received at the same time. The most experienced practitioner cannot say in what that gonorrhœa which is followed by syphilis, differs from common gonorrhœa; but that it has something peculiar in it, and is a very rare occurrence, is proved by this, that scarcely one case in several hundred terminates in this manner.

The author asserts, that gonorrhœa comes on now and then spontaneously, in which case it is to be considered as a symptom of syphilis.

Gonorrhœa is to be cured by a strict antiphlogistic regimen, and by mucilaginous decoctions and emulsions. All astringent injections are denounced as being hurtful to men; but they are allowed to be necessary for women.

The various accidental symptoms, which now and then accompany and follow gonorrhœa, are treated of with judgement.

The history which the author gives of the symptoms of syphilis is short, but correct, like that of most other diseases which he describes. The author declares mercury to be the only remedy on which reliance ought to be firmly placed for a radical cure of this horrid distemper. *Festina lente*, he says, is the golden rule in the administration of mercury; for various disorders at times arise from inducing salivation hastily.

Scrophula is to be cured by emetics, mercurials, antimonials, particularly the æthiops antimonii, kermes mineral, and sulph. aurat. antimon. Plummer's pills, gum guaiac. lime-water, laxatives, such as rhubarb, aloes, calomel, and jalap, tonics, such as cinchona, coffee made of roasted acorns, and martial mineral waters.

Externally, ox-gall, with camphor, mercurial ointment, emplast. cicutæ, liniment. ammoniæ, and fomentations with cicuta boiled in milk.

Icterus.

Icterus. — In cases where obstinate obstruction of the liver is suspected to be present, the following remedies are recommended: ℞ Ext. tarax.—gramin. āā ʒiij, Tinct. rhæi aquos. Liquor. terri fol. tart. (Kali tartar.) āā ℥iij, Infus. flor. chamomæl. ℥xij. M. Of this half a tea-cupful is to be taken, as often as the patient can bear it without being purged.—℞ Sapon. Venet. Fell. taur. inspiss. āā ʒiij, Tinc. castor. ʒß, Ext. rhæi—Trifol. fibrin. āā, q. s. ut fiant pil. pond. gr ij. Of which ten or fifteen are to be taken three times a day. Assafœtida, rhubarb, and calomel, and raw eggs, are also recommended.

On the subject of Hæmorrhoids the author makes a great number of very excellent practical remarks, which, however, cannot be abridged. Where fistulous sores have occurred, in consequence of neglected hæmorrhoids, the author recommends the following fluids to be injected into them: ℞ Ext. myrrh. gummos. ʒij. Solve in aq. calcis et seri lactis, āā ℥iij. M.—℞ Balsam. Peruv. nigr. ʒi, Pulv. myrrh. ʒiij. Coque in aq. fontan. ℔j. Colatur ℔ß. Adde mel rosæ ℥j.

The author asserts, that it is extremely dangerous to repel that peculiar eruption, called Serpigo, which frequently accompanies old cases of hæmorrhoids, and which always occasions the most intolerable itching and painful uneasiness. Strangury, tenesmus, œdema, and many unpleasant affections of the head and eyes, he states, are the consequences of this injudicious practice. His advice is, to apply olive oil externally, and to take internally sulphur and cream of tartar. We do not approve this dilatory and inert practice. We speak from experience, when we assert, that the diluted Ung. hydrarg. nitrat. may be applied with perfect safety, and almost always with success.

Amenorrhœa.—When the catamenia have not yet occurred, the author recommends the *flores sulphuris* combined with aloes and myrrh, and the Pyrmont water. Where visceral

obstruc-

obstructions are suspected, he orders an infusion of rhubarb, and a solution of soluble tartar with bitters; and after these have been employed for a certain length of time, he advises steel to be given as follows: ℞ Limat. martis ʒiij, Pulv. rad. scillæ, Pulv. croci āā ℈j; f. c. s. q. Gum. ammon. Colat. Pil. pond. gr ij. Of which ten are to be taken thrice a day.

Should the catamenia be suddenly checked during the period of their flowing, he recommends a strict antiphlogistic regimen, the application of leeches to the labia pudenda, and cupping-glasses on the inside of the thighs, warm fomentations to the pubis, and a pediluvium of warm water.

Dropsy.—It is a principal rule in the cure of this disease to add antispasmodics and tonics to all other remedies. If the cause be venereal! corrosive sublimate and opium; if an ill-cured ague, the sulphur auratum antimonii. When the disease proceeds from visceral obstructions, calomel and rhubarb are to be given; and if it be impossible to ascertain the cause, we must endeavour to empty the water by the kidneys. Cream of tartar, squills, either alone or in combination with calomel and digitalis purpurea.

We forbear to make extracts from his mode of treating Hypochondriasis, Melancholia, Mania, Hysteria, Peripneumonia notha, Syncope, and Lethargy, because there is nothing either new or interesting in what the author says concerning them.

Epilepsy.—Where the causes of this disease are known the practice must be modified accordingly; but as it is very seldom that we discover the true cause of the convulsive attacks, those remedies are to be tried which experience has shewn to be generally useful. If the patient can foretel the approach of an attack, the author recommends an emetic of blue vitriol to be exhibited as soon as the patient's feelings begin to announce the approaching disorder. He asserts that

this

this very frequently prevents the attack altogether, and now and then radically cures the disease. During the paroxysm it is wise not to administer any remedy; and yet the author gives it as his advice, if the paroxysm be severe and of long continuance, to administer an emetic, by means of a bent tube passed through the nostril.

If blood flow from the mouth, and there be a violent palpitation of the heart, blood-letting is to be employed. After the paroxysm, a gentle purge is always to be exhibited, combined with a little laudanum.

In epilepsy which follows the small-pox, issues are to be made, and the flowers of zinc are to be exhibited. The other remedies recommended are numerous; valerian, bark, hyosciamus, balladonna with and without rhubarb, ox-gall, and assafœtida, orange-tree flowers, cuprum ammoniacale, mercury, white vitriol, Dippel's animal oil, the cold bath, issues, and setons, &c.

The history and treatment of the local diseases, comprehending many of the class of Cachexia of Cullen, make up the remaining part of this volume. In this part, and indeed throughout the whole of the work, we have met with many judicious practical remarks; but which (not being different from what the generality of practitioners recommend) we decline to transcribe, as we have already dedicated more space than is due to this performance. L.

ART. VII. *Medical Directions for the Use of the Vessels in the Service of the Hon. Sierra Leone Company.* By THOMAS M. WINTERBOTTOM, M. D. Physician to the Colony at Sierra Leone. 12mo. pp. 80. CADELL, London. 1798. Price 1*s*.

WE do not scruple to recommend this little tract to the attention of African traders. The instructions it contains

were originally written at *Free Town* on the coast of Africa, for the use of such trading vessels in the service of the Sierra Leone Company as were unprovided with surgeons. The directions are drawn up in a plain and familiar manner, free from technical terms, in order to render them more intelligible to common readers, and more applicable to general practice.

A few cases are added, of patients who laboured under the different diseases here described. The modes of cure recommended are those which the author says he found successful during a residence of nearly four years at Sierra Leone, "with upwards of fourteen hundred persons constantly under his care." Y.

ART. VIII. *Cases of the successful Practice of Vesicæ Lotura in the Cure of diseased Bladders.* By JESSE' FOOT, Surgeon. Octavo, pp. 42. BECKET, London. 1798. Price 1s.

"THE subjects which I have hitherto treated upon," says Mr. Foot, "have required from me the examination of a great variety of authors, in order that I might appear at least to have handled them with due care and attention; not to note as new, what had before been registered, and not to carry on inquiries without diligently tracing and concatenating former practice with that I hoped to improve; or, at least, it has always been my intention by writing so to do."

The literary researches of Mr. F. have only furnished him with one "solitary" example of the *Vesicæ Lotura* having been performed. "This neglected case," says he, "which I shall copy from Le Dran, is the only case that I know of; and the successful treatment he gave it, is the only practice of the sort that I ever heard of.

"The treatment of this case by Le Dran was conducted in the only possible manner that human wisdom, grounded

upon

upon long experience and faithful observation, could suggest; and with the *properest* instrument that was then known, if we except the flexible catheter by Heister. The judgment and the art of this refined surgeon, of this modest and accurate physiologist, were fully competent to the most perfect intention. And there ought therefore to be some very strong reason assigned, why there should have been but this solitary case found upon record; especially when it is recollected, that so many cases demand a similar treatment; and if that similar treatment be omitted, such is the real value of this discovery, that no other method can be a substitute for it. Of this I mean to be understood as speaking positively.

"It is not without contrition, that I painfully deplore the recollection of a great variety of cases, which would have undoubtedly succeeded by this treatment, that found no relief from any other, and that are now beyond the reach of human power. My atonement must rest on *my* finding out the right method at last, and the crime of past inattention must be redeemed by future expiation. It is better late than never. It will soon be seen how simple and how successful the process is now conducted; and that the patients even can perform it on themselves. That which has been dreaded is now coveted; that which was deemed impracticable is now made familiar; and that which every surgeon could not achieve, is now undertaken by every patient; and herein consists the true value of the remedy."

Instead of detailing the reasons here offered for the supposed neglect or ignorance of surgeons, in regard to "the unequivocal process of injecting the bladder,—this self-evident process,"—as it is named, we advise the author to peruse the records of medicine with more "care and attention:" he will then find that this practice has not even the merit of novelty to recommend it; but was employed at least five hundred years ago, and has since then been occa-

sionally had recourse to by English as well as foreign practitioners.

Mr. Foot's observations are exemplified by four cases, in which the vesicæ lotura proved beneficial: but the intelligent reader would not be much edified by our transcribing them. U.

ART. IX. *A compendious Medical Dictionary:* containing an Explanation of the Terms in Anatomy, Physiology, Surgery, Materia Medica, Chemistry, and Practice of Physic. Collected from the most approved Authors, by R. HOOPER, M. D. of Pembroke College, Oxford, Fellow of the Linnæan and London Medical Societies, &c. 12mo. MURRAY and HIGHLEY, London. 1798. Price 5*s.*

DR. Hooper has performed an acceptable service to students in medicine by the compilation of this Dictionary, which was long needed, and will be found of great utility as a vade mecum for learners. S.

ART. X. JACKSON's *History and Cure of Fever.*

(Concluded from page 132.)

HAVING related many interesting cases of endemic and contagious fever in all its forms, Dr. Jackson proceeds, in the *fifth chapter,* to the description of fever. The chapter is divided into two sections. The first contains the description of contagious fever, as it appeared in the British army in England, Holland, and Ireland, during the years 1793, 1794, 1795, and part of 1796, which is comprehended under three classes.

" *Class* I. History of that form of fever, in which marks of suspended or impaired action are more conspicuous

cuous than of action increased in force or irregular in time. This form has various shades and degrees, is of different duration, and liable to many changes during the course.

"*Class* II. Irritated Motions. The primary action of the cause of fever is obscure; but, at a certain and early period, action, irritated, irregular, and apparently increased, is so conspicuous in the vascular system, with unusual commotion of the moving powers, as to characterize a form of fever, which deserves particular consideration from the multiplied variety of its appearances, and the numerous accidents which happen to life from its tumultuary disturbances.

"*Class* III. Local Fever. The cause of fever generally affects the system extensively, but on some occasions the principal action seems to be excited upon distinct organs, or upon the functions of organs;—the dysenteric and peripneumonic forms are the most common and the most formidable. In these forms, pains, spasms, and marks of irritation are sometimes conspicuous; sometimes, more particularly in the dysenteric form, the action of the arterial system is very little disturbed; the course of the peripneumonic form is usually the most rapid, the dysenteric sometimes continues seven days or a fortnight, without very materially impairing the functions of the general system; but it is common to both, that the causes which change or repress the local disease, seldom fail to disorder the existing economy of the frame: thus peripneumonic fever or affection of the chest is often changed to delirium or affection of the head; dysentery changed, or suddenly repressed, is also followed by general fever, delirium, spasm, and convulsion."

In the second section we have the description of the concentrated endemic of tropical climates, vulgarly called the yellow fever; more particularly the fever of St. Domingo, as it appeared among the British troops in different districts of the island during the years 1796, 1797, and part of 1798.

The

The appearances of this fever, we are informed, class themselves naturally,

"I. Into a form, where irritation, tumult, and excitement of the vascular system are chiefly conspicuous in the early period;—local derangement and disorder of important functions, in the latter.

"The above form of disease occurs most commonly in vigorous and athletic habits, and it often occurs, under the circumstances of preceding desultory exertion, or transgressions of the rules of temperance, and seems to be, more strictly speaking, the yellow fever of authors. Its course is short, and its termination is sometimes by the oppression of organs of importance,—the lungs or brain, more frequently, by the destruction or derangement of organs of secondary importance,—the liver or stomach,—events connected with irritated motions and irregular determinations. The duration of this disease does not often exceed four days; according to the more usual course, there are twelve hours of a tumultuary state or forming fever, thirty-six or forty-eight of ardency and excitement, twenty-four or thirty-six of subsiding. In this there is variety, but upon the whole, the morning of the third is the more common period at which the subsiding state commences, the evening of the fourth, or the morning of the fifth, the most usual period at which the fatal event actually takes place; yet various accidents, and particularly modes of treatment, irregularly accelerate or protract the course of the whole or of the different parts.

"This form of fever is rapid in course among Europeans newly arrived in tropical latitudes; but a disease of the same cast, of considerable variety of appearance, and more protracted duration, is sometimes observed to take place among those long resident in hot climates, and more particularly among those, who, during this residence, labour hard, undergo military fatigues, or use active exercises in the open air.

air. It is necessary to remark, that there is not any thing very particular in the symptoms of the first attack of this form; but the excitement of the vascular system during the course runs high,—that state of action called inflammatory becomes general and unequivocal; the pulse is irritated, strong, and vibrating; the heat is great, but less ardent or caustic, and more equally diffused than in the former; the pain of the head is severe, but the sensation is somewhat different here and in the other,—it is connected with a state of strong and violent action; delirium sometimes runs high, with partial convulsion and great exertion of muscular strength; the eye appears inflamed, but it is wild and agitated; in short, there are marks of violent irritation, a great degree of increased action, with considerable indications of energy in the vascular system and moving powers. The duration is protracted generally to the seventh, sometimes to the ninth, and even later. The termination, when favourable, is by sweat and regular crisis; when fatal, by general failure of the powers of life, marked by venous paralysis and oozings of blood from different parts; or by destruction of particular organs, &c. frequently too, at an early stage, by sudden convulsion. Vomiting occurs sometimes; but yellowness and black vomiting, though occasionally observed, are by no means common.

" II. Into a form of fever, where the action of the vascular system appears to be deficient or oppressed, the moving powers impaired in their energies, or rendered irregular in their motions.

" This form of disease, as observed among Europeans newly arrived in the tropical regions, chiefly occurs among men who lead inactive and indolent lives, who are confined in the less pure air of crowded towns, crowded barracks, or crowded ships, who are under the impressions of *ennui*, *chagrin*, and fear, or who are constitutionally deficient in energetic exertions of mind and body.

" III.

"III. Into a form, the prominent feature of which is an aspect of countenance dark and cloudy, as in scurvy:—the action of the vascular system is sometimes irritated and irregular,—generally oppressed and overwhelmed.

"This form of disease appeared principally among those, who were removed from a more pure and cool, to a confined and immoderately hot air, whose habits were full, and who were restrained from the active use of their limbs.

"IV. Into fevers of type."

The sixth chapter is allotted to the appearances on dissection of those who died of endemic fever; but as they are given more fully in the twelfth, we pass on to the seventh chapter, on the characteristics of endemic and contagious fever. Their discriminating symptoms the author is of opinion cannot be delivered but with doubt and hesitation; both seem to obey the same periods of change or termination: the periods of the former are regularly tertian, or compounds of tertian; in the latter there is more uncertainty, and, as far as he has observed, less regularity.

The eighth chapter contains the prognosis or signs of favourable and fatal terminations.

In the ninth chapter we find the author favours the very ancient doctrine of critical days, which, he says, in this disease is founded on established laws, capable of satisfactory explanation.

The proximate cause of fever, a subject on which volumes have been written, next demands our attention; and by what the author has advanced in this chapter, it is evident that he favours the modern doctrine of *morbid action*—"the febrile cause," he observes," is a cause of irritation, disturbing, but not increasing in a natural manner, the action of the moving fibre; on the contrary, interrupting, impeding, and as it were suspending the operation essential to health and life; by which means the expression of its effects principally consists in debility and impaired energy."

In

In the eleventh chapter the cure of fever is comprised. "According to the manner in which the author has long viewed this subject, the plan of cure divides itself into two parts: viz. into the cure of a fever forming, and into the cure of a fever formed. In the first, art is capable of doing every thing, and it consequently ought not to leave any thing to nature; in the second, a form of things has taken place, or a chain of operation is established, which can seldom be broken forcibly consistent with safety to life, art can do little; and the little which can be done requires caution and judgment; for to act and not to do harm, under such a condition of things, is not ordinarily a matter of indifference.

"*Cure of Contagious Fever.*

"The method of cure adopted by the author in this disease, though probably not the best, was in general sufficient to conduct matters to a fortunate issue, if adopted in the early stage, and executed with vigour and perseverance. Where the patient was seen in the course of the first day, the views were directed to effect a change of existing circumstances; and to excite, by suitable means, a new train of action. In the accomplishment of this object, a vomit of emetic tartar, so managed as to prove severe in operation, was singularly successful. Evacuations by stool were frequently the consequence of this practice; while sweat or a free perspiration often resulted from warm bathing, or from fomenting the extremities and trunk of the body, with flannels wrung out of hot water. When the tide of circulation was by these means turned to the surface, James's powder, in repeated doses, sometimes with and sometimes without any addition of calomel, warm diluent and aromatic drinks, blisters to the nape of the neck, back, or temples, were employed to support this state of things,—and generally with complete effect. If the above process was adopted under the forming state of fever, or within twelve hours from the com-

commencement, and followed up in all its parts, the progress was either cut short abruptly, or the threatened violence so much mitigated, that accidents seldom occurred. The state of diseased action being changed by the management here mentioned, a continuance of similar management becomes necessary during a certain length of time, to prevent a recurrence of the evil habit. A succession of blisters will often be proper; the drinks are required to be diffusible and gently stimulating; the air, cool and pure, to be admitted freely; the body to be washed, or bathed frequently in warm water, and afterwards washed completely in water from the sea or the river; the linen and bedding to be changed often; and travelling in boats, carts, or carriages, to be employed on every possible occasion. This last is of essential benefit; but it appears oftener by accident than design among the means of the healing art.—Bark will also be useful in many cases, in maintaining the restored healthy action.

"If the disease be formed,—the first days of it actually past, the hopes of cutting short its progress by the above or any other process known to the author, are uncertain, and the attempt is not perhaps altogether safe. The chief business then consists in obviating fatal tendencies as they arise, leaving the time of the termination to the periodical laws of the habit. The views in such case are various, and change frequently in the course of the disease. But though the indications be often fluctuating and uncertain, this general one prevails,—to encourage and promote a determination to the surface and extremities of the body. To accomplish this object, no general plan or remedy answers better than doses of James's powder, often repeated, sometimes with additions of camphire, opium, and even calomel; warm fomentations to the extremities, the admission of pure air, the frequent use of clean linen, frequent ablution with water from the sea, with water to which vinegar

or spirits are added, rendered more effectual by exercise or gestation, compose the means. But if important organs,—the brain, the liver, or lungs, suffer from the irregular action of the cause of the disease, more particularly than other parts, the local application of blisters, sometimes preceded by bleeding, and aided by bathing or fomentations, is chiefly trusted to: blistering, if well conducted, affords more benefit in such cases than any other remedy, but various accessories are necessary to ensure the operation.—If marks of congestion appear in the head or epigastric region, calomel, with James's powder, is a remedy of great value.

"In those forms of fever where the motions of the vascular system are highly excited, where the action is actually increased,—general and copious fluid perspiration,—the destruction or injury of an organ, exhausted, repressed, weakened, or suspended action occur in a defined, and generally at a short period. In the first case, intermission or cure is effected; in the second, the general fever is converted into a local disease, the event of which is precarious; in the third, the energies are generally impaired, and the most vigorous exertions are required to save life. It is a matter of the first importance, in the cure of fever, to inquire minutely into the state and condition of things; for on a knowledge of this depends the success of our undertakings. If, from a state of activity and excitement, torpor and suspension of action supervene suddenly, evacuations, bleeding, vomiting, purging, and blistering, are indicated; in such cases the means, whatever they are, require to be prosecuted with a determined boldness; on the contrary, if, after a state of high excitement, the increased action gradually subsides, the irritability or vital energy seems to be exhausted rather than suspended, and more caution and management are requisite in directing the means of relief; for instead of the decided and seemingly violent measures, which are often proper in the one case, a gradual supply of

nourishment, light and gently stimulating, frequent change of linen and bedding, the admission of pure air, washing the body with cold water, and, above all, gestation and travelling are essential in the other. Wine, brandy, and opium stimulate the system to increased action; they are numbered among the artificial means of supporting existence, but the effects are fleeting, and the management is a matter of great nicety. As soon as a fever is completely formed, a train of diseased action is established in the habit, which can seldom be broken abruptly with safety to life. Under such conditions, the above powers, applied in excess, stimulate to increased, often to inordinate action, an action which sometimes subsides before an object be attained, by neglect in supplying the material of stimulation, or which sometimes destroys the irritable quality of the fibre, by excessive and continued exertion. In either case no benefit arises from stimulating; destruction, on the contrary, is accelerated by the misapplication of means. In regulating the application of stimulating powers, under the formed, or in the advanced stages of fever, discernment and caution are requisite; the first impression must be narrowly observed, the impression carefully supported, but not unduly excited; the final event will then in a great measure depend on the changes of periodical movement. The author thinks it proper to observe, that, in many instances, he has carried the plan of stimulating to a great length; he has reason to believe, that by this means a patient was sometimes rescued from death; but, he must also acknowledge, that the mark has sometimes been exceeded; action has been excited at a period, or under circumstances of disease, where harm might be done, and when no object could be gained by excitement;—the processes of nature were thus disturbed, and the artificial cure became abortive, from an attempt ill timed or badly conducted. The increase of action, excited by the above-mentioned artificial means,—wine, brandy,

and

and opium, is not barely transitory, it is followed by increase of languor, in proportion to the degree of the preceding excitement; the energy and increase of force which follow the admission of free air, the washing of the body with cold water, or travelling in boats, carts, or carriages, are permanent and progressive. The contrast of these different modes of operation is often brought under view in times of military service; and the author has had numerous opportunities of observing the effects, not only in individual instances, but among collective bodies of men. In hospitals, wine, brandy, and opium excited action to a certain extent, and life was supported, under a stupid intoxication, for a length of time, but without progress of recovery; under the actual operation of washing with cold water, and still more, under the act of travelling a few miles in a cart or carriage in the open air, men, who could only be said to exist, have immediately become cheerful and animated, and walked briskly on limbs that a short time before they had not the power of moving. Changes so considerable will scarcely be credited by those who have not seen them; but those who have seen them are numerous, and though the condition of the fact might often escape notice, the existence of the thing cannot but be known.

"*Cure of Endemic Fever.*

"The cure of the endemic fever of the West Indies consists of two parts,—the cure of a forming, and the cure of a formed disease. The first requires a speedy, bold, and decided execution; it is attempted upon the plan of changing forcibly the existing state of things; the other requires caution and management,—means, under different conditions, seemingly opposite, and not referable to one general principle.

"In the commencement of fever, whether the disease declares itself by the symptoms of a paroxysm violent and in form, or only by headach and general uneasiness, the

author

author has been in the habit, particularly in times of sickness, and in subjects lately arrived from Europe, to order blood to be drawn from the arm to the amount of twenty ounces or upwards. This, followed by a dose of physic,—salts and emetic tartar, or calomel and James's powder, is frequently sufficient to remove the complaint; but as it is improper to leave any thing to the chance of events where certainty can be attained, such additional means ought always to be employed as leave little doubt of ensuring the accomplishment of the object. The object is here a complete change of the existing state of things; and this will be effected with more certainty if the blood be drawn from a large orifice, and permitted to flow till the pains remit, and the tide of the circulation be disturbed in its course; a quantity less than twenty ounces will seldom answer the end,—less than thirty ounces will not answer it in many cases; bathing or fomenting the lower extremities in warm water, during the operation, may be employed to contribute its aid; pouring cold water upon the head and upper parts of the body is also particularly useful at this time in exciting a new train of movement; a blister of large size on the neck and between the shoulders, gives additional security to the operation, and calomel with James's powder is, upon the whole, the best form of remedy for promoting the necessary evacuations, by the bowels and skin, essential to health; copious dilution, with drinks of tea or aromatic herbs, is of some importance. If these means be employed under the proper circumstances,—viz. within the first six hours from the attack, and prosecuted with vigour and judgment, the disease will almost always be cut short in its course, or changed to the form of an intermittent:—so far the physician proceeds upon a principle,—the mode of cure is one in all forms; at later periods the views are dark, uncertain, and fluctuate according to relative circumstances.

"When the fever has passed into the second day, the figure

figure of action is in some measure established; so that the view of cutting short the progress abruptly, or even of effecting a change to an intermitting or remitting form, is less certain; the plan of cure then requires a modification, both according to the period and the form of the diseased action which has taken place.

"In the first form, distinguished by excitement of the vascular system, the management of evacuation is a matter of much nicety. If the pain of the head be severe, with sensations of fulness and tension; the pulsation of the carotid and temporal arteries violent, with eyes red and turgid, the pulse tense, confined, labouring, and, as it were, obstructed; the heat ardent and concentrated, with burning sensations and anguish at stomach, the foundations of mischief are laid, and destruction, unless speedily averted, may be expected to be the consequence. The success of changing the state of things is now uncertain; but the danger is such, as to demand a bold and vigorous attempt. In the morning of the second day, or before the exacerbation of that day has reached its highest point, the accomplishment of the object is of fair promise; after that period, it will seldom be attempted to good purpose. It is an useful preliminary to begin with cutting off the hair and shaving the head, to place the feet in warm water, and to allow blood to flow from the arm,—not as measured by ounces, but till the headach be removed, and the existing state of the circulation actually changed; cold water, or rather water artificially cooled, by the solution of salts, being then poured upon the head and upper parts of the body, the head washed, perhaps, with Cayenne vinegar, and a large blister applied to the back part of the neck and between the shoulders, the patient laid in bed, supplied plentifully with drink, cool, refreshing, and gently stimulating, or warm, aromatic, and diffusible, there is good reason to expect the commencement of a new and favourable train of movement;

the

the operation of James's powder, to which calomel in moderate doses may often be added with advantage, will be found useful in promoting this view, and in supporting it when begun. If the change alluded to takes place, and advances progressively, intermission, at least remission may be expected in a short time; but if the end be not attained, or there appear no decided indications of it in less than three hours, the bleeding must be repeated, with new affusions of cold water, and the adoption of the bold measure of moving the patient in a cart, carriage, or spring waggon, through the pure air, sheltered by boughs of trees, in the best manner possible, from the direct rays of the sun. This is a practice which has seldom been employed by professional authority; but it is a practice, when tried by accident, far exceeding all others in its benefits. There are various means which irritate and stimulate; but the affusion of cold water, and gestation in pure air are the only, or the principal ones, which give permanent energy to the healthy action of the human system: frictions, and perhaps in preference to others, frictions with mercurial ointment, to the epigastric regions particularly, may be employed to contribute their aid. If some local injury hath not already taken place, our views, if the means be well executed, will seldom be disappointed.

"So far," continues the author, "we act upon principle; but if the disease be advanced to the evening of the second, or morning of the third day, the original object is no longer in view: signs then arise, which indicate an approaching remission, or which give reason to suspect that the foundations of injury or destruction are laid in organs, or in a series of parts;—to mark those conditions precisely in description is difficult, but the end is important. In the first place, if heat be equally diffused through the different parts of the body, and partake of the nature of warmth rather than that of ardent and caustic pungency,

which communicates a disagreeable sensation to the hand; if the skin seem thin and sensible, the pulse considerably more frequent than natural, energetic in its contraction, free, or not obstructed, regular in time and force, advancing progressively to an acme; in other words, if what is termed reaction of the arterial system be completely established, with a diminution of anguish and internal heat, there is reason to expect that a remission will take place; in which case, the decided steps recommended above are not only unnecessary, but dangerous. If, on the other hand, heat be unequal,—moderate on the extremities and surface lightly touched,—ardent and caustic, about the præcordia, or on deep pressure; the skin dry, thick, and of diminished sensibility; the sensations of anguish and internal heat distressing, with nausea and glutinous vomitings; the pulse, irregular in time and force, communicating an idea of obstruction or obstacle, swelling languidly, falling or contracting without energy, the foundations of injury in organs, most commonly in the organs of the viscera of the abdomen are laid, or the exhaustion or loss of power of a series of parts approaches, in which case the plan of evacuation recommended above has no place. The radical cure of fever consists in changing diseased motions,—in exciting reaction, and in encouraging determination to the surface of the body; but the powers of medicine cannot, at this period, undertake a cure on that principle with safety or effect. Congestions are local, and evacuations from the seat of these congestions afford the best, perhaps the only hopes of relief. The viscera of the abdomen, the biliary and mesenteric systems, are in a manner surcharged,—their functions suffocated and oppressed. It appears on the inspection of dead bodies, that, under a certain condition of things, the cure can only be attempted by copious and effective evacuation from the alimentary canal.—Calomel has been supposed to answer this purpose best; and it is

evident that the purgative ought to be small in bulk and powerful in effect;—the cathartic extract is probably a good addition. But, though the main indication consists in brisk and active purging, by remedies that possess, or have added to them, a stimulating ingredient, frictions to the abdomen, particularly frictions of mercurial ointment, ought not to be neglected;—they are of service, perhaps by the action of simple friction, as well as by the qualities of mercury, stimulating to exertion the torpid vessels of the surface; washing with cold water is always refreshing, and, after the sensibility of the skin is in some measure restored, it is of considerable benefit; but the great and important remedy, and the one perhaps by which the effects of purgatives can be rendered extensive, is agitation in pure air,—even rapid motion in a carriage or spring-waggon:—the benefits of accidental trial decree it to be a remedy of common resort.

"The cure of fever, of whatever form, proceeds upon one principle in the forming state of the disease; in the advanced progress relative circumstances are wholly, or chiefly to be regarded. In the first form of fever the action of the vascular system is always irritated,—often preternaturally increased; and, in consequence of this increased action, crisis is frequently effected by sweat or some other evacuation; in the second form this rarely occurs; and as effective salutary evacuations seldom then take place, the cure becomes necessarily a work of art. In the second, and even third day of this second form, the symptoms are usually so moderate in appearance as not to occasion alarm; yet destruction is proceeding with a steady and even rapid pace. In this period, when the skin is dry, dusky, and as it were withered, the lips dry, and the tongue little changed from its natural aspect, the sensations of fidgetting and uneasiness undescribable, the pulse sluggish and without energy of contraction,—little disordered in time, but minutely

nutely observed, giving an impression of obstacle or confinement, secretions impaired, the exeretions of urine and stool suspended, blood may be drawn with safety; and it ought to be drawn in quantity, till a change of the existing state of circulation be effected. The aid of the means mentioned above, bathing, fomenting or washing with warm and cold water alternately, blisters to the neck and back, frictions, doses of James's powder, with or without calomel occasionally repeated, copious dilution, with grateful and gently stimulating drinks, and, in a more especial manner, travelling in a carriage or spring-waggon, exposed to the air, is required to begin the salutary movement, and to support it when begun. But if a favourable change,—a developement of the vascular system do not manifest itself, in three hours at farthest after the above measures have been employed, the repetition of the bleeding, bathing, and travelling is indispensable;—an object has been placed in view, and till the accomplishment of the object be attained there can be no remission of endeavour. Common opinion will perhaps fly with horror from the practice here recommended, in what is vulgarly called the sinking state of fever; but experience has proved it to be safe,—safer than when fever runs high: reaction is then begun, and where reaction is begun and established, evacuation is often dangerous, for it interrupts a course of things, pointing to a salutary object.

"But if the fever be advanced to the evening of the third, or beginning of the fourth day;—in short, to that period, earlier or later, at which the fibre loses irritability or active motion, known by defect of animation of countenance, by veins in the eye large and red,—as if injected, by a dusky and olive colour, a skin dry, thick, and like a dead hide, a pulse without energy and force, little, disturbed in time, nausea, or pituitous and flaky vomitings, offensive taste in the mouth,—the forerunner of oozings of blood

from the alimentary canal, the danger is extreme; yet in such cases the powers of life have sometimes extricated themselves; and the following means appear to have been the best helps; viz. bleeding to a certain extent, purging by brisk and stimulating purgatives,—calomel, burnt alum, and washing the body frequently with cold salt water, with vinegar, with brandy, or with spirits of wine and camphire, frictions with mercurial ointment, and, above all, the act of moving in a carriage through pure air.—The author is aware that the mention of bleeding in the above condition of things will revolt the greater number of medical practitioners; but experience has proved that bleeding may be performed, under such circumstances, without destroying life; and appearances after death seem to suggest that it is an appropriate remedy. The venous system is turgid in an extraordinary degree, and common sense concludes that the first step towards removing the congestion is by direct evacuation."

Thus we have inserted Dr. Jackson's method of cure in his own words, that no circumstance might be omitted. Further particulars are related which require attention in the cure of the second and third forms of fever, and of fevers of type; and this chapter concludes with many valuable remarks on remedies employed in the cure of fever,—as bleeding, emetics, purgatives, warm and cold bathing, gestation, travelling in carts, and blisters; with observations on different methods of cure.

The twelfth chapter comprehends the consequences of fever. The ravages which appear, upon dissection, after death of those who suffered from the endemic of St. Domingo, are thus stated in the first section of the chapter:

"The *brain* appears, upon dissection, to be more or less affected in the majority of subjects, who die in the acute state of the disease, or under the actual influence of fever; the membranes, as noticed above, are then inflamed, or

the blood-vessels, turgid to an extraordinary degree, give an appearance of commencing gangrene, rather than that of inflammation, properly so called; water is sometimes found in the ventricles, with evident effusion in the interstices; but this is an effect,—not general,—not even frequent. In chronic states of illness, consequent to fevers, the functions of the brain are often impaired, but the traces of existing derangement are not always visible: yet in some cases the vessels are found to contain little or no red blood, the ventricles and all the interstices are full of water, and the whole substance appears pale, and as it were macerated. —In the above state of things, the prominent features of disease, previous to death, consisted in a pale and lifeless aspect, in a state of pulse uncommonly slow,—perhaps under forty, power of motion diminished in an extraordinary degree, but without actual palsy.

"The *lungs*, in many instances of subjects who die of fever in the acute stage, appear to be suffocated or oppressed, resembling a sponge filled with black grumous blood; they appear also in some cases to be irregularly inflamed, and in not a few to be spotted in the back parts, the blood stagnating from position. Such appearances occur frequently; but chronic disease, and death from derangement of this organ in consequence of fever, is rare among Europeans in the West Indies. In some instances adhesions are formed between the membrane of the lungs and pleura;—even collections of matter are found frequently under the sternum; but this is seldom a solitary appearance, or to be reckoned as a cause of death; it is usually connected with something similar in other parts, being in fact a mark of a general disposition in the habit, to form abscess in the cellular membrane.

"The *liver* suffers materially during the actual existence of fever, and is often much deranged by its consequences. It thus happens not unfrequently, that abscess being formed

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in the liver, and adhesion taking place between its coverings and those of the diaphragm, the diaphragm becomes affected, at last eroded, and the matter finds passage through the lungs, giving an appearance of pulmonary consumption; in other cases, the abscess formed in a similar manner in the substance of the liver, has appeared to discharge itself through the biliary ducts into the alimentary canal; or the inflammation being vigorous in the external coats and skirts of this organ, adhesion is formed with the colon, duodenum, and neighbouring part;—erosion takes place, and the matter escapes into the tract of the intestines;—these adhesions and erosions are often of great extent: it is further observed that the liver appears sound externally on some occasions, the application of the knife only discovering an internal abscess, which had not found exit at the period of death. To the above may be added, the very common occurrences of changed organization and enlarged dimensions, in consequence of which the functions are impaired or abolished.

"*Alimentary canal.* The stomach and small intestines suffer, as noticed before, in the actual state of fever, and often show derangement, the effect of the immediate disease, which has obviously a share in occasioning death; even in those subjects who die of chronic dysentery, the inner coats of the stomach and small intestines often appear loose, or in the act of separating, the mucus is red like brick-dust, and in great abundance; but, though this be the case frequently, the seat of the chronic disease is principally confined to the tract of the colon and rectum. The structure of the coats of those parts is changed; they are thickened in substance; the veins are large and distended; the general colour is grey, dusky, olive,—in some parts livid, or tending to gangrene; the capacity is diminished in one place, enlarged in another: the inner coats are ulcerated in various manners and degrees, the ulcerations are ordinarily

ordinarily of the size of the nail of a human finger, sometimes larger, sometimes smaller; they are of different degrees of depth, sometimes nearly superficial, sometimes penetrating to the outer coat; the ulcerated surface is sometimes unequal, interspersed with whitish granulations, sometimes covered with thick and real matter, sometimes foul, with bloody ichor or sanies, sometimes covered with dirty grumous blood, and livid to a considerable extent around. The colour of the omentum, mesentery, and mesocolon is grey, dusky, and olive; the veins are distended, as if injected, or as if the blood had stagnated previous to death:—numerous glands red, inflamed, or livid, of the size of a common pea, but of an oval figure, are scattered in many instances on the surface, particularly near the connexion with the intestine.

"The above are the more remarkable traces of the changed forms of the fevers of the West Indies, as they consume slowly by obstructions or changed organization, ending in abscess or ulceration of important organs; but it must be remarked further in this place, that the course of fever appears, on many occasions, to be suspended;—hopes are entertained of a speedy return of health, when unexpected relapse speedily terminates existence. In such cases, effusion or gangrene in vital or important organs are the chief appearances observed after death:—effusions happen frequently in the brain, gangrene in the coats of the alimentary canal."

The remaining sections of this chapter include the author's remarks on "relapse in febrile form," diseased viscera, and ulceration of the intestines, or dysentery.

The thirteenth chapter, on the "original local modes of action of the cause of fever," comprises diarrhœa, dysentery, cutaneous eruption, and ulcers of the legs; one or other of which, it appears, is mostly the effect of the operation of the

the cause of fever upon Africans: after their arrival in the West Indies "they rarely experience formal fever."

The fourteenth chapter, which treats on the means of preventing disease, and the fifteenth, on convalescence, are very short: the book then finishes with a judicious explanation of the principles of military discipline, military economy, and a scheme of medical arrangements for armies. B.

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *Case of Phthisis Pulmonalis;* in which the Symptoms were completely suspended, after an Attack of Typhus Fever. Communicated by THOMAS CHEVALIER, M. A. Member of the Corporation of Surgeons in London, &c.

THERE are many cases in which the progress of one disease appears to be suspended by the intervention of another. The fatal termination of phthisis pulmonalis, in particular, seems to have been frequently delayed by pregnancy. But I have not hitherto met with any instance in which the symptoms of this cruel disorder have been so entirely superseded, in an advanced stage of it, as they were in the following, by an attack of typhus fever:

W. P. a sensible young man, about twenty-five years of age, of a spare habit, began to spit blood about the latter end of the year 1793. As the quantity he brought up was very small, as it returned but seldom, and only on lying down in bed, he paid no attention to it for several months. About the middle of February 1794, his general health began to decline. He coughed a little; his breath was rather short; his pulse small and quick; his appetite failed; he grew weak, and unable to attend his business (which was that of a watchmaker) with regularity. The more pressing symptoms were removed by medical assistance, but the

hæmoptoë

hæmoptoë still continued to return after its accustomed intervals. After having tried a variety of remedies to little purpose, he was persuaded to go into the country, and went down to Somersetshire about the middle of the summer; but returned in November, far worse than he went. The disease continued to withstand every effort for his relief; and he went on, growing worse and worse, till the latter end of March 1795. His cough at this time rather abated, owing, as he supposed, to a nostrum, then much in vogue, which he had been taking. His difficulty of breathing, however, night-sweats, general debility, and emaciation, continued the same. On the evening of the 16th of April he was attacked with excruciating pain in his head: it was not constant, but returned at short intervals, darting through the head, from temple to temple. He had no sickness, but his countenance was flushed, his eyes glassy, his skin hot, and his pulse frequent and full. In any other case I should certainly have bled him freely with such a pulse: but the extreme debility and emaciation I had witnessed a few days before, and the bad, nay fatal consequences I have seen attend the hasty use of the lancet, on an inflammatory attack in the latter stages of consumption, forbade me to employ it in this case. I therefore directed his forehead to be bathed with the tincture of opium, as often as the pain returned; a blister to be applied to each temple; and two table-spoonfuls of a saline mixture, with camphor, to be given every four hours. By these means the pain was soon relieved; and on the following day he appeared more comfortable in his feelings than he had been for some time. Still his pulse was rather full, and his eyes continued to have a glassy appearance. But his cough, he observed, seemed wholly to have left him, and his respiration was more easy than it had been for several months. Toward evening, he grew worse; and the next morning I found his pulse sunk, his tongue was become

hard and dry; his countenance was partially flushed, and he was delirious at intervals. All the appearances of phthisis had now totally vanished, and those of typhus fever had taken their place. His respiration was tolerably full, and not too quick, except in the agitations of delirium; he had no inclination to expectorate, not the least wheezing whatever; nor had he any thing about him, as his friends particularly remarked, from which any one would have supposed him to have been the same person, whose time had so lately been wholly worn away in struggling with an incessant cough ("the importunissima tussis,") and panting for every breath*. Bark and wine, with other cordials, were now very freely given. The following day (April 19th,) the delirium was continual, he swallowed with difficulty, subsultus tendinum came on; and in two days more, petechiæ appeared all over his body. The delirium continued with scarcely the smallest intermission; and in this state he languished, without the least return whatever of his pectoral complaints, until the morning of the 27th of April, when at length he expired, eleven days from the attack of his last complaint.

I obtained permission to open the body, which I did on the following day, in the presence of several medical friends.

On opening the head, the dura mater was observed to be thickened, and slightly adhering to the pia mater in several parts. A small quantity of water was also found between

* Often have I been reminded by such cases of those pathetic lines of West—

"Ante omnes morbos *importunissima tussis*
Quâ durare datur, traxitque sub ilia vires.
Dura etenim versans imo sub pectore regna,
Perpetuo exercet teneras luctamine costas,
Oraque distorquet, vocemque immutat anhelam.
Nec cessare locus; sed sævo concita motu
Molle domat latus, et corpus labor omne fatigat;
Unde molesta dies, noctemque insomnia turbant."

them.

them. The vessels of the pia mater were exceedingly turgid, and in several parts coagulable lymph had exuded underneath it. This was the case not only over the cerebrum, but the cerebellum also: some branches of turgid vessels were seen very beautifully ramifying over the tunics of the optic nerves. About eight ounces of water were found in the ventricles; a full ounce of which was contained in the fourth. The corpora striata, and thalami nervorum opticorum, were unusually large, but did not appear diseased in their structure.

There were six ounces of water on the left side of the thorax, and nearly one ounce in the pericardium.

The lungs were exceedingly flimsy, and delicate in their texture; more so than I ever remember to have seen them in an adult. They adhered in many parts to the pleura, and were studded with tubercles; particularly on the superior part of each lung, where the adhesions were also very firm. Many of these tubercles were in a state of suppuration; and in the right lung, three inches from its apex, was an abscess, containing about half a tea-cupful of pus. In the left lung, about the same distance from its apex, and nearly in its centre, was a considerable cavity, evidently formed by ulceration and loss of substance, capable of containing half a pint. It was almost entirely empty; its internal surface, however, being covered all round with a dark-coloured and bloody matter. The parietes of this ulcer were flabby, and not in that indurated state in which they are generally found; but there was not the least appearance of a clean or healing surface at any point of it.

The abdominal viscera were for the most part sound; except the kidneys, which were larger than common, and had many tubercles on their surfaces, some of them large, but very few of them suppurating: here and there was a

a small tubercle on the surface of the liver; but the mesenteric glands were in a natural state.

(To be concluded in our next Number.)

Art. 2. *On the Application of Pneumatic Chemistry to the Art of Healing, and on the medicinal Properties of oxygenated Substances.* By M. FOURCROY.

(Continued from page 198.)

"THESE notions, already sufficiently multiplied to conduct to the establishment of a general doctrine on the function or the medicinal force of oxygen, drew the whole of my attention to the manner in which this principle acts in our body. As to mere practice, we are satisfied; but, in regard to the perfection of the art, it is not enough to know that any substance has a given effect, and thus to plunge it into the class of specifics, by offering it to credulity or confident empiricism merely as a valuable remedy. If we have seen or heard it repeated a hundred times, that this is the only useful part of medicine, it is the greatest proof that the true basis and real principles of this art are yet to be sought after. But when once the necessity has been acknowledged of seeking for these in the philosophy of nature, in the laws of intimate attraction which bodies exercise on each other, it is impossible to rest satisfied with this first result, which is often confounded either with the expression of our prejudices, or with the errors which arise from a too hasty observation. Although as yet advanced but a short way in this research, which has constantly engaged me for the last twenty years, but especially since the year 1790, the epocha in which I have to hope my labours and experiments on animal matter will not be forgotten by the history of science, yet it will be easy for me to prove that

that we can explain the operation of oxygen on the solids and fluids of animals much more easily than we can explain the operation of opium or Peruvian bark; two heroic medicines, the effects of which have now been observed for a great length of time, and have been repeated a thousand times, and yet, concerning which, we know nothing but the last results.

"As the nature of my inquiry into the operation of oxygen may perhaps contribute to assist that by which the action of the most important medicines may be determined, the detail of the facts will not, I hope, be found out of place. The more important and difficult the subject is, the thicker the veil is with which Nature has concealed this operation, the more necessary it will become to follow with accuracy the steps which have led me to raise a small portion of it. The detail of these are, besides, of such a nature as will discover to others the paths which may lead to some useful truths.

"The first opportunity I had of paying attention to the energetic action of oxygen belongs to one of those extraordinary circumstances in sensation which is experienced when one is exposed, for the first time, to the sudden operation of certain chemical preparations which are acrid, odoriferous, and as yet unknown. It was in the year 1787, in preparing a quantity of oxygenated muriatic acid for my lectures. Two of my pupils, who were occupied in my laboratory in making this preparation, having received a great quantity of this oxygenated muriatic acid gas in the throat and trachea, were immediately seized with a violent and suffocating cough. After many convulsive efforts of the diaphragm, they expectorated a matter as thick as the white of an egg half boiled, and which was of a yellowish white colour, with a greenish tint. This expectoration continued in great quantity until the chest was unloaded, which did not happen until after they had suffered some hours of uneasiness,

easiness. They complained at first of an extraordinary dryness and tightness in the throat and nose. The *velum pendulum palati* felt to them as if it had become solid, ligneous, and very difficult of being moved; their nostrils felt as if lined with a dry and stiff parchment, and the mucus which was secreted there was exceedingly thick; the eyes were red and watery, and the whole face glowed with heat. Some hours afterwards the eyelids were glued together, and the tears became thick. All these symptoms united, appeared to me like a violent catarrh. The catarrhal fever accompanied this artificial affection, which I have several times since had an opportunity of observing, not only in myself, but also in others.

"In order to ascertain with accuracy the effects of this gas, I impregnated some animal fluids with it, such as the white of an egg, the serum of the blood, and saliva; all of which, I observed, became thick and coagulated by this gas, in the same manner as they do by means of the liquid oxygenated muriatic acid. In proportion as this coagulation took place, the acid gradually lost its character of oxygenation, passed into the state of simple muriatic acid, and every thing proved that the oxygen was taken from it by the animal substance. In thus proving to myself that the acidifying principle thickened animal fluids, I was justified by the facts in suspecting what I have formerly mentioned, both in my lectures and in some of my memoirs, that there is, in the natural production of catarrhal affections of the nose, throat, and larynx, an effect on the part of the atmosphere, which is similar to that of the oxygenated muriatic acid gas, especially in that instance where the air passes quickly from a moist and temperate state to that of a cold dry air and windy weather, which both brings and renews, with a great deal of celerity, different masses of condensed air. Those who are exposed to either of these causes, experience in their nose, throat, and larynx, a sensa-

tion

tion analogous to that of pungency and dryness, together with an astringent and metallic taste, and a general contraction of the membrane which lines these regions.

" To this first and positive information concerning the thickening or coagulation of our fluids by means of oxygen I added several other facts in the years 1789 and 1790, during which time I gave a very long course of sixty lectures, at the Lyceum, on animal matter. It was, in fact, during these researches that I conceived, and began to execute, the plan of works, which I have since sent to learned societies. It was then that the immediate thickening and true coagulation of the white of an egg, and the serum of the blood, by means of the red oxyd of mercury, while that metal was almost reduced to its metallic state by the operation, was discovered. This effect was to me a ray of light; it explained to me how the thickness and soapy quality of animal fluids were owing to the tendency which they had to absorb air and be united with oxygen; how eggs which had been immersed for a long time in air were sooner hardened than others; and how, in general, all animal fluids were bleached and grew thick on being exposed to the air.

" Soon afterwards the examination which Vauquelin and I made of the tears and nasal mucus, enlarged my views of the power and action of the oxygen of atmospherical air on the fluids of animals, which, by their situation and laws of excretion, were exposed to the contact of air. The lachrymal fluid exhibited to us, under similar circumstances to that in which it is placed by nature, a viscosity, which increases from that which is a little ropy to that which forms the white or yellow concretions which cement the eyelids, or which envelope the *caruncul*æ *lachrymales*, after having moistened their surface. After this fluid has descended into the cavities of the nose, and has been united to the mucus there, which it appears destined to dilute, and to detach from

from Schneider's membrane, I have seen it, in its mixture with this mucus, exhibit a more rapid progress towards concrescence and the formation of an opake solid substance, of the consistency of a jelly or of glue, owing to the constant absorption of atmospherical oxygen. The animal matter which undergoes this change during its oxygenation has an attraction for this principle, which is equal to that portion of animal fluid which is impregnated with soda, which it exercises at the same time upon the quantity of carbonic acid which is mixed with the air that issues from the lungs. Hence this last is always found in the state of carbonate of soda, in the fluid of the nose; while, on the other hand, it is in a caustic or pure state in our tears. The oxygenation of animal mucus is as little doubtful in this case as the saturation of soda which accompanies it. It can only take place by means of the contact of air. During sleep the tears flow like a fine fluid along the margin of the eyelids, while, on the other hand, during our waking hours they acquire a slight consistency, which causes them to be spread like a transparent membrane on the cornea and sclerotic coats of the eye.

"The example of saliva, and the facts relating to it, are neither less striking nor less favourable to my ideas, nor less useful, in order that their immediate application to physiology may be known. It is another liquid on which oxygen has the greatest influence, and which appears destined to be impregnated with it, in order to transport it to the alimentary canal: all the sources from which this fluid flows being open in that cavity which forms a communication between the air and the lungs, and which constantly compresses and mixes this fluid with the others which moisten the inside of the mouth; and, besides this, being disposed, by its mucous nature, to retain between its particles those of the air, it becomes charged with these in every possible degree; and hence the fact announced some years

years ago by Citizen Michel Dutennetas, relatively to the oxydation of gold and silver triturated in a glass mortar with saliva, as well as the custom which takes place in some laboratories, of hastening the oxygenation of quicksilver in hog's lard, by spitting from time to time in the vessel in which this tedious process is carried on. I am also persuaded that in the process recommended by Chiarenti of Pisa, for introducing medicines into the system by means of the cutaneous absorbents, the saliva not only serves as a vehicle, but has also a considerable influence on their medicinal properties, in consequence of the oxygen which it yields to the combination that is formed.

"From these combinations, which arise from the absorption of oxygen by animal fluids, of oxygen which quits several compound substances to unite with these fluids; from the effect of the thickening or coagulation which takes place in these liquors from their intimate union with oxygen, it appears natural to apply the principle to a medical phenomenon, entered in the register of the school of Cos, and confirmed by the observations of all ages, and of every man acquainted with the art. I allude to what is called *concoction* in diseases, a constant change which announces and accompanies their happy termination. This concoction consists in an equal and homogeneous thickening of some fluid; an effect which it is impossible not to acknowledge as resulting from the *fixation* of oxygen, and which is similar to all the combinations I have already enumerated. The formation of *pus* belongs to the same class, and obeys the same laws.

"Every thing then conspires to shew that, from the facts which I have collected, one of the principal means by which the oxygen of medicines acts, depends on its combination with animal matters, and on the thickening which it produces in the fluids, either immediately and in proportion as it combines with them, or mediately by the disposition to

coagulate, which it communicates to them while it only slightly adheres to them. It is, doubtless, from this source that we are to refer the concrescibility and plastic property which is observable in the fluids of those animals which, breathing by means of pulmonary organs more or less extensive, appear to have a thousand mouths open, in order to absorb atmospherical oxygen. It is also this effect to which we must attribute the sudden change that occurs in the serous humours of atonic ulcers upon the application of oxygenated matters, which change is generally followed by a diminution and thickening of the discharge. This first effect is for the most part immediately followed by cicatrization, as appears in the natural progress of ulcers, which, at the period when they are about to heal, are covered with a thick gluey pus, instead of the ichor which was observable until then. It would be difficult to conceive this absorption and combination of oxygen without observing, at the same time, the source of a change in the nature of the animal substances in which it is fixed, and without admitting that the proportion of their constituent principles suffers a greater or less remarkable variation, similar to that which is always manifested in those chemical essays in which such substances are acted on by matters which are powerfully oxygenated. This variation, which doubtless is not quite so great in these medicinal effects as in chemical experiments, is, however, similar in its nature, and consists particularly in the separation of a portion of hydrogen which is disengaged or combines with water, as well as in the developement of a certain dose of carbon which is also extricated.

" But these chemical actions of oxygen, which assist in explaining its medical effects, are not the only ones which it appears to exert on the animal body; for this, not being solely exposed to chemical agency, must experience medicinal power from other changes. Those things which are

commonly denominated organic forces or powers, because they are inherent in living organs; muscular mobility, which, by its obedience to different stimuli, supports motion and presides over life, certainly receives a modification from medicinal oxygen. It is now upwards of twenty five years since Carminati remarked, for the first time, that animals, suffocated by what was then called fixed air, and which were immediately opened after death, had their hearts so paralyzed and insensible as not to be irritated by the strongest stimuli. It was concluded, at that time, that fixed air acted like a narcotic poison, and it has required near twenty years labour and research, before Godwin and Humbolt discovered that the heart lost its irritability and contractility, because the blood which touched it was not endowed with the stimulating power, and that the presence of oxygen in the air could support it. Besides, it has been proved that oxygen gas, breathed pure, augments the heat and vital energy, and that the arterial pulsations and muscular contractions become more violent by doing so. Citizen Van Mons has experienced on himself that the suroxygenated muriate of potash produced an exciting and stimulating effect on all his system to such a degree, that the skin became redder and more animated, his pulse more frequent, and his mind more active. These different effects are certainly very remarkable in the administration of remedies, of which the oxygen is separated in our body, and of which it is probable that oxygen is the only primitive agent, as I have endeavoured to prove.

"Those who, informed of these facts, refuse or entirely neglect chemical phenomena in the animal body, and who do not see, in the whole system of the animal, any thing except the exercise of irritability and sensibility, will not attribute any other energy to oxygen than that which has been spoken of, and will only see in it a stimulus, a *stenic* which acts with sufficient force to merit the deepest reflection on the part of

physicians. But while one part of men of science confine themselves to remark the sensible effects of remedies, and to ascertain the cases in which a prompt and powerful succour is to be obtained from them in the cure of diseases; while others, preoccupied with an opinion or favourite system, see in the action of medicines only one primary action, and thus appear to confine within the limits of their conception the power of nature, as if it were possible to enclose it in the circle of certain general principles; the true philosophy of science compares all opinions, assembles all facts, does not adopt any system to the exclusion of the rest, and thus sees arise a durable monument which time can only strengthen."

(To be concluded next month.)

Art. 3. *Prize Subjects.*

FRENCH NATIONAL INSTITUTE.

THE Class of Mathematical and Physical Sciences had proposed, in the year IV, as the subject of a prize to be adjudged in the public sitting of Vendemiaire of the year VII, the uses of the liver in the different classes of animals. This subject so important, which the Academy of Sciences had proposed in 1792, and which the Institute thought it its duty to continue to hold forth to the examination of the learned, was not treated in the manner it expected. It received only one memoir, in which the question was not in the smallest degree illustrated; and of which the author had wandered into the wide field of ancient hypotheses, without availing himself of the anatomical and chemical resources pointed out by the Institute in its programme.

This paucity of memoirs, on a subject which concerns one of the noblest and most useful branches of physics, induced the Institute to suppose, that the magnitude and extent

extent of the question, the series of the researches necessary for treating it in a proper manner, and, above all, the difficulty of finding united in one man the chemical and anatomical knowledge requisite for solving it, were the causes which had deterred competitors from coming forwards. Without abandoning the idea of presenting to the zeal of philosophers a question of so much importance, the Institute has thought proper to divide it into two branches, and to make it the subject of two prizes, by adding to the medal which was to have been adjudged in the year VII, for the whole question, that which it has at its disposal for the present year. It proposes, therefore, as the subject of two prizes, to determine the functions of the liver, separating what relates to the anatomical structure of the hepatic system from what relates to the chemical examination of the liquids and solids belonging to that system.

The object of the *first* of these prizes will be, the form, situation, size, comparative weight, and description of the tissue of the vessels, ducts, and appendages of the liver, considered in the principal classes of animals, from man down to insects, molluscæ, and worms. The object of the *second* will be, an analysis of the hepatic or cystic bile in the different classes of animals as above mentioned.

The memoirs of those who intend to be candidates for one or other of these prizes, or for the whole in one essay, must be transmitted, post paid, to the secretary of the class of the mathematical and physical sciences, before the first of Nivose in the year VIII. (Dec. 21, 1799.)

The prize for each question will be a gold medal of the weight of a kilogramme; and will be adjudged in the sitting of Germinal 15th, in the year VIII. (April 4, 1800.) The memoirs may be written either in French, in Latin, or in whatever language the authors choose.

MEDICAL

MEDICAL SOCIETY OF LONDON.

This Society continues to offer two *silver* medals annually; *one* to the author of the best essay, read before the Society, within the year, by a fellow, that is, any member who resides within seven miles of London; the *second*, to the best essay by any other person.

The Medical Society likewise offers, annually, a *gold* medal (denominated the FOTHERGILLIAN MEDAL,) value ten guineas, for the best dissertation, *by any person*, on a given subject.—The subjects for the present year are,

1. The effects of the different gaseous fluids upon exposed surfaces of the animal body, in a state of health and disease.

2. The cow-pox.

3. The medicinal effects of the nitric acid and its vapour.

4. The treatment of strictures of the urethra by the caustic.

For the Year 1800.

1. The comparative advantages of the different methods proposed for the treatment of ulcerated legs.

2. The best mode of treating erysipelas.

3. The medicinal effects of phosphorus.

4. The cause of the heat in fevers.

For the Year 1801.

1. The medicinal effects of arsenic, externally and internally applied.

2. The distinguishing characters of scrophula, in its various stages, and in different parts of the body.

3. The causes and treatment of deafness.

4. One or more diseases, not generally known, peculiar to artificers in any branch of manufacture.

The following REGULATIONS must be observed respecting the gold medal.

1. Each dissertation shall be delivered to the secretary, in the

the Latin, English, or French language, on or before the 1st day of November, in the year specified; and the adjudication of the medal shall take place in the last week of February following.

2. With each dissertation shall be delivered a sealed packet, with some motto or device on the outside; and within, the author's name and designation: and the same motto or device shall be put upon the dissertation, that the Society may know how to address the successful candidate.

3. No paper, with the name of the author affixed, can be received; and if the author of any paper shall discover himself to the council, or to any member thereof, such paper shall be excluded from all competition for the medal.

4. All the dissertations, the successful one excepted, shall be returned, if desired, with the sealed packets unopened.

LYCEUM MEDICUM LONDINENSE.

The prize question of this Society for the current year is as follows:

An acid precipitates a substance from the bile, similar to the resinous substance of plants, which is insoluble in water: why does this precipitation take place? The same substance is often separated in the gall-bladder and gall-duct, forming concretions: how is this precipitation produced; and is there any method by which it may be prevented, or by which, when precipitated, it may be redissolved?

Art. 4. *Miscellaneous Intelligence.*

MATERIA MEDICA.

FROM CRELL'S Chemical Annals, part 2 of vol. i, 1798, we learn that Cadet Dévaux, according to the experiments made by Lowitz, gives the following *Method of freeing molasses from their sharp taste, and rendering them fit to be used instead*

instead of sugar: Take twenty-four pounds of molasses, twenty four pounds of water, and six pounds of charcoal coarsely pulverized; and having mixed them in a kettle, boil the whole over a slow fire. When the mixture has boiled half an hour, pour it into a flat vessel, in order that the charcoal may subside to the bottom; then pour off the liquid, and place it over the fire once more, that the superfluous water may evaporate, and give to the molasses their former consistence. Twenty-four pounds of molasses will produce twenty-four pounds of syrup.

This method has been practised on a large scale with the happiest effects: the molasses become sensibly milder, and can be employed in many articles of food; though in dishes where milk is used, or for cordials mixed with spices, sugar is to be preferred.

In a late periodical (American) publication, Dr. MITCHILL mentions that a great number of venereal ulcers have been speedily cured in the New-York hospital by the local use of pot-ash, or salt of tartar: and he thinks these successes prove "*that there is nothing specific in the action either of mercury or of nitrous acid on venereal ulcers.*"

PHYSIOLOGY.

Dr. SŒMMERING, who is well known to the public by his many valuable writings, particularly in anatomy and physiology, has proved, by a number of observations, that the degree of intelligence of different animals is always in proportion to the bulk of the brain, compared with that of the nerves. Man has the most voluminous brain, and his nerves are very small: it is this which gives him his high degree of intelligence. The Ass has very large nerves and a very small brain.

Dr. EBEL has published a very interesting dissertation on this subject.

THE

LONDON MEDICAL REVIEW

AND

MAGAZINE.

VOL. I. N° IV. FOR JUNE MDCCXCIX.

ACCOUNT OF NEW PUBLICATIONS.

ART. I. *A Treatise on Sugar.* By BENJAMIN MOSELEY, M. D. Physician to Chelsea Hospital, &c. Octavo. pp. 195. ROBINSONS, London. 1799. Price 5*s*.

DR. Moseley begins this elaborate, but singular treatise, by a variety of amusing extracts from several authors, tending to elucidate the history of sugar. The *first part* relates directly to the sugar-cane, and the establishment of plantations or works for its cultivation, and for the extraction of its juice*: the *second* refers more particularly to the history of sugar itself; and the *third* treats of its properties and use in diet and in medicine.

* Although Dr. Moseley has illustrated this history by numerous quotations from ancient and modern authors, he has entirely overlooked one of the principal sources of information, respecting the early culture and management of sugar-canes in the island of Hispaniola: the learned reader will find a distinct chapter on this subject in the fourth book of OVIEDO's *Historia Natural y General de las Indias Islas y Tierra Firme del Mar Oceano.* Folio. Seville, 1535. T.

Under the last head Dr. Moseley has inserted the opinions, first, of the Arabian writers, and then of those of later date. He then proceeds to recite the experiments of Bergman, Scheele, Fourcroy, and other chemists, on the composition of sugar; and the observations of Neumann and Kalm, on the saccharine juice of the maple, birch, and other vegetables.

When we had perused thus far, we were in hopes of coming to something new and practical, Dr. Moseley having given it as his opinion (p. 125) that sugar "may be applicable in many ways more than we are at present acquainted with, to a variety of interesting purposes." But here we were disappointed; as, first of all, the author wishes "to settle many vague notions and erroneous opinions relating to *the heraldry* of sugar, and the cane, of which it is the produce." In order to do this, he proves, among other points, that the Hebrew word *Kaneh*, which occurs in many parts of the Old Testament, and has been supposed by some to mean the sugar-cane, was a fragrant vegetable produce, or bitumen, but not the calamus aromaticus, as it is rendered by most commentators. The nutritious qualities of sugar are at length noticed, and also its medicinal uses; but we do not perceive much novelty in the remarks on either.

Dr. Moseley observes (p. 141,) that "Sugar does not create worms in children, as has been often said: on the contrary, it destroys worms. Some writers have mentioned this*; but my authority is my own observation.

"In the West Indies, the negro children, from crude vegetable diet, are much afflicted with worms. In crop-time, when the canes are ripe, these children are always sucking them. Give a negro infant a piece of sugar-cane to suck, and the impoverished milk of his mother is taste-

* "Act. Med. Leip. anno 1700."

less

less to him. This salubrious luxury soon changes his appearance. Worms are discharged; his enlarged belly and joints diminish; his emaciated limbs increase; and, if canes were always ripe, he would never be diseased."

In his way, the author is led into many very humorous and desultory observations on several other subjects, beside that on which he professes to treat. It was natural enough that the effects of honey should be noticed, and not very strange that the erysipelatous eruptions, and other disorders it sometimes occasions, should remind the writer of similar inconveniences which arise from eating muscles; but this is not all, for the Doctor passes on from one thing to another, till he arrives at the *cow-pox*, *the yaws*, *negro-magic*, and the *yellow fever*. With the former he stops to divert himself a little: *e. g.*

"The *cow-pox* has lately appeared in England. This is a new star in the Æsculapian system. It was first observed from the provinces. It is so luminous there, that the greasy-heeled hind-feet of Pegasus are visible to the naked eye: the hidden parts of that constellation, which have puzzled astronomers as to the sex of Pegasus; and which HIPPARCHUS, TYCHO, HEVELIUS, FLAMSTEAD, and HERSCHEL, could never discover.

"The medical Pythonissas are divided in their opinion respecting this phenomenon.

"Great events are foreboded.—Some pretend that a restive *greasy-heeled horse* will kick down all the old gally-pots of GALEN.—Others, that the people of England are becoming like the inhabitants of a wilderness, beyond the land of Cathay, seen in 1333, by the rare and inimitable Sir JOHN MANDEVILLE, who, he says, were 'wild, with 'horns on their heads, very hideous and speak not; but 'rout as swine*.'

* "Quarto ed. 1677, chap. 87."

"Wonderful things do certainly appear in all ages: the great ERASMUS mentions a man, one *Philario*, an Italian, who in Holland was very much afflicted with worms. While the worms were in his body, he spoke the Dutch language fluently. When his physician cured him of the disorder, he could not speak a word of that language. The Dutch worms and the Dutch language left *Philario* together*!

"In this *Cowmania* it is not enough for reason to concede that the cow-pox may lessen, *for a time*, the disposition in the habit to receive the infection of the *small-pox*. All cutaneous determinations; catarrhal fevers; and every disease of the lymphatics; and medicine, tending to what SYDENHAM would call depurating that system, do the same. Surgeons know that the first inflammation of any membrane is the most violent: and that reiterated inflammation deadens sensibility. But no complaint to which people are repeatedly subject, as the cow-pox, can perform all circumstances in the habit, equivalent to the small-pox, which people never have but once. Besides, the small-pox does not destroy the disposition in the habit to receive the cow-pox. If that be the case, the small-pox and the cow-pox, then, are not analogous; but radically dissimilar. The small-pox is undoubtedly an evil; but we understand the extent of that ill; which we had better bear,

'Than fly to others that we know not of.'

"Inoculation has disarmed the small-pox of its terrors, and reduced it to management. I have inoculated in the West Indies, and in Europe, several thousands. I never lost a patient. I speak subject to the animadversions of contemporaries. And I should not have mentioned this, but that it gives me an opportunity of saying many others, whom I know, have done the same, with the same success. Accidents in the inoculated small-pox are uncommon; and

* "*Crede quod habes, et habes*—ERASME!"

we

we all know from experience, that disease, properly treated, leaves nothing after it injurious to the constitution.

" Can any person say what may be the consequences of introducing a *bestial* humour—the cow-pox, I hope, does not deserve the name of disease—into the human frame, after a long lapse of years? I mention this serious trifling, not from disrespect to the ingenious, nor to discourage inquiry; the object well deserves it;—but the doctrine of engrafting distempers is not yet understood by the wisest men: and I wish to guard parents against suffering their children becoming victims to experiment.—What misery may be brought on a family after many years of imaginary security!"

The account Dr. Moseley gives of the *yaws* is more sober and interesting.

" There are several distempers of *bestial* origin, I have no doubt. The *yaws* is one of them; and, not being understood in Europe, and a well-known affliction in the sugar colonies, it is not foreign to my subject to notice it here.

" The *yaws* naturally is an original African distemper. It may be communicated to white people, as it is to blacks, by inoculation, and by accidental contact, when the ulcerous matter is carried into the habit by absorption. I have seen several shocking instances of this sort. But it breaks out in negroes without any communication, society, or contact.

" The seeds of the *yaws* descend from those who have ever had it, to their latest posterity. No period from infancy to age exempts them from it. Its appearance is uncertain.

" It differs altogether from every other disorder, in its origin, progress, and termination.

" Left to itself, it sometimes departs in nine, twelve, fifteen, or eighteen months, without leaving behind it any inconveniency. Sometimes it remains much longer, and

ends

ends in shocking nodes, and distortions of the bones. Many are destroyed by it. No person is subject to it twice.

"From want of care and proper management, the torments of the *yaws* surpass all description, from the *bone-ache*, and dreadful agonizing curvatures, and caries of the legs, arms, collar-bones, wrists, and almost every other bone and articulation in the body.

"There is also, sometimes, a relic after the original malady is gone, called the *master yaw*; this is an inveterate ulcer, proceeding from the largest *yaw*, or chief determination of the eruption.

"Generally this distemper terminates in what are called *crab yaws*. These are painful sores, or cracks in the feet, sometimes spongy, sometimes hard and callous.

"There are two sorts of *yaws*, like the two species of *farcy* in horses; the *common yaws*, and the *running yaws*.

"The *common yaws*, without fever or indisposition, begins with small pimples, which soon increase, and appear in round, white, flabby eruptions, from about the size of a pea to that of a large strawberry, separately, or in clusters, in different parts of the body. These eruptions do not appear all at once; and, when some are declining, and others disappearing, a fresh crop comes out in a different part of the body. Sometimes a few doses of sulphur will force them out, when they are thought to be entirely gone from the habit.

"The *running yaws* breaks out in spreading cutaneous ulcers, discharging a great quantity of acrid corrosive matter, in different parts of the body. This is the worst sort.

"The cure of the *yaws* is now understood by skilful practitioners. Inoculation is performed with success. Care soon removes the principal mischief of the distemper; and

the *crab yaws* are easily cured in the manner which I have related in another publication*."

The "Science of Obi," the history of "Three-fingered Jack," and some remarks on the *Yellow Fever*, conduct us to the conclusion of this work. On the latter subject Dr. M. makes several valuable observations: but what shall we say to the following?

"Veteran physicians in times of danger generally desert the field, intrench themselves far off, behind old books, and leave raw recruits to fight the foe; who, inexperienced in the tactics of physic, seldom escape the recoil of their own artillery, and fall with their patients."

We shall close our account of this eccentric performance with the following extracts, relating to the origin and propagation of the yellow fever:

"The Americans are not to look for the cause of their *yellow fever*, on dunghills, in rotten vegetable substances, and about the wharfs and neighbourhood of Philadelphia. Nature does not deal in such commodities. She does nothing on so small a scale.

"This pestilence has a far more expanded origin. And I verily believe, that their melancholy officers of health; avoiding what they call infected persons; and putting marks on the doors and windows of an house where any person is ill, and similar acts of charitable and good intention, only tend to frighten the people, and dishearten them, at a time they stand most in need of fortitude.

"The cause of pestilential epidemics cannot be confined, and local. It must lie in the atmosphere which surrounds, and is in contact with every part of us; and in which we are immersed, as bodies in fluids.

"These diseases not appearing in villages, and thinly inhabited places, and generally attacking only great towns

* "*Treatise on Tropical Diseases*, ed. 3, p. 519."

and

and cities, may be, that the atmosphere, which I conceive to be the universal propagator of pestilence, wants a commixture, or union, with some compounded, and peculiar air, such as is generated in popular communities,—to separate, or release its imprisoned virulence, and give it force.

"Importing epidemics, and the existence of contagion in pestilential diseases, are contrary to the opinion I ever had, and still maintain.

"From whence was the importation of the contagion of the plague at Naples in 1656; by which 20,000 people died in one day?

"Can any person, for a moment reflecting, believe that the great plague of London in 1665, was caused by opening a bag of cotton in the city, or a package of hemp in St. Giles's parish?

"Is it possible to suppose that people should have been found to propagate, or believe the well-known and favourite story of the advocates for MEAD's theories,—that a lady was killed instantly by smelling at a Turkey-handkerchief; and a gentleman by only walking over a Turkey-carpet?

"One might ask, what became of the persons who delivered the handkerchief to the lady, and laid down the carpet for the gentleman?

"I have seen almost all the lazarettos, hospitals, and prisons in Europe. I never could discover that fevers are propagated by contagion. Were it possible so to be, I should have been long since dead.

"No pestilential fever was ever imported or exported; and I have always considered the fumigating ship-letters, and shutting up the crews and passengers of vessels, on their arrival from foreign places, for several weeks, for fear they should give diseases to others which they have not themselves, as an ignorant, barbarous custom." P.

ART.

ART. II. *A Lecture on the Situation of the large Blood-vessels of the Extremities; and the Methods of making effectual Pressure on the Arteries, in Cases of dangerous Effusions of Blood from Wounds:* delivered to the Scholars of the late Maritime School at Chelsea; and first printed for their Use. Third Edition. To which is now added, a brief Explanation of the Nature of Wounds, more particularly those received from Fire Arms. By WM. BLIZARD, F. R. S. Small 8vo. pp. 84. DILLY, London. 1798. Price 3*s.*

THE introduction prefixed to this judicious little performance explains the author's original design. "Were the knowledge of the situation of the blood-vessels of the extremities, so far as is necessary for checking dangerous effusions of blood, and the use of the tourniquet more general; not confined to the navy and army, but extended to colleges and schools, particularly military and nautical academies, manufactories, hospitals of every description, prisons, plantations, fire-offices, the clergymen of parishes in which no surgeons are resident, commanders of merchantmen, miners, &c. it could not fail of proving highly beneficial to mankind.

"The experience of most persons could afford instances of danger or death through defect of this knowledge.

"But," Mr. Blizard remarks, "knowledge of this kind may be productive of some degree of good, though never *practically* required; for SCIENCE ever tends to improve the heart, and raise the mind to contemplate the power, wisdom, and goodness of HIM THAT MADE US!"

The instructions here given will not only be found useful to the class of persons for whose benefit they were primarily written, but are also well worthy the perusal of young practitioners in the army and navy. The author's observations on dangerous effusions of blood, are very perspicuous and season-

able; and they are illustrated by an engraving, which cannot fail to render the subject intelligible to the meanest capacity. His explanations of the nature and treatment of wounds received from fire-arms, although concise, are sufficiently important to arrest our attention.

"In *every* case of wound," says the author, "pressure and stretching must happen prior to division of fibres, with whatever velocity of succession these effects may be produced.

"Stretching irritates fibres through their whole extent; as the string of a musical instrument is vibrated through its whole length by a force applied to any part of it. Division saves from farther stretching; as the breaking of a vibrating string destroys the continuity between its extremities, and sets at rest the separate portions.

"The effects of irritation are pain, inflammation and its consequences, convulsion, delirium, spasm, and locked jaw.

"Proportionably to the degree of the irritation, the irritability of the wounded part, and the body generally, will be these effects up to death.

"Contusion always implies stretching and irritation, and also death of parts. The effects of irritation and detachment or sloughing of dead parts, consequently follow.

"In a simple incised wound, if the space between the divided fibres be very inconsiderable, if there be no extraneous body in that space, if irritation and inflammation be not so great as to produce *pus* or matter, then may the sides unite by what is called the *first intention*, or, very properly, *agglutination*; for they are truly, in the first place, glued together.

"The objects of surgery, then, in a simple incised wound, are, to restrain irritation and inflammation, to remove extraneous matter, and to bring and retain the sides in contact.

"Bleeding, purging, injection, and low regimen, are proper

proper in the first intention; adhesive plaster, bandage, bolster, suture, and, above all, *position*, in the last.

"It must be manifest, from the nature of what is denominated lacerated wound, that it will be attended with great irritation; the effects of which are, therefore, to be guarded against by opium, in addition to the other means mentioned, indicated also in this case. Fomentation in warm water, bread and milk poultice, or poultice of decoction of poppy-heads and linseed meal, are proper for the purpose of allaying irritation and pain.

"If a muscle, the fibres of which are united in one tendon, be partially divided, the effects will probably be more violent than if the whole were cut through.

"In the case of a punctured wound (by a small sword or bayonet for instance) no inquiry into its depth or penetration should be made, by probing or otherwise. Gratification of curiosity in this case may prove fatal, but never can be productive of the least benefit. Life will often depend entirely upon immediate agglutination; to promote which, all the means proposed for preventing and removing irritation and inflammation should be rigidly employed. A probe would break down the tender glutinous medium, and irritate the sensible extremities of the divided vessels, upon whose gentle action success altogether depends.—There is no case in which attention to position is more required than in this; and it should be remembered, that no part about the trunk can be at rest otherwise than in a recumbent situation.

"In every contused wound there is an object to be regarded, in addition to what occurs in other distinctions of wounds; namely, the separation of dead parts. This process being very weakening, reduction of the strength, by bleeding, &c. should not exceed what is absolutely required on account of an excessive *degree* of irritation and inflammation. Soothing means, as fomentation of warm water,

and poultice with milk or decoction of poppy, are generally proper.

" In every gun-shot wound, then, there is death, and must be separation, of parts.

" According to the *momentum* of the ball, and the resistance it meets with in its progress, so will reflection more or less readily happen; and reflection will of course be determined by the angle of incidence.

" Persons, ignorant of the reflections that are produced upon bullets passing into or through any part of the body, have concluded very falsely concerning the parts injured in gun-shot wounds, and upon the foundation of such mistakes many marvellous stories are related.

" Balls have been reflected round the body, without penetrating the *peritonæum*, or membrane that lines the cavity of the belly, and without perforating the *pleuræ*, or membranes that line the chest; and have then either lodged or passed out at an opposite part. The like events have happened respecting the skull and its contents. Even a whole charge of slugs from a blunderbuss has penetrated one side of a knee-joint, passed round the knee and through the opposite part, without injuring the articulation.

" In any such like case, it is not unusual hastily to conclude, that the ball has gone through the bowels or the brain: and the laws of the animal economy have been thence misinterpreted.

" It is a vulgar error, that the contents of fire-arms do no harm when discharged closely applied to the body.

" When a bullet penetrates a flexible part, it seldom happens that any portion of the substance is detached inwards before the ball; for the divided extremities of the fibres, at the point of rupture, are bent, and yield to the passing body. The fibres afterwards recover themselves, according to their degree of elasticity, from their curved

state,

state, and present an aperture bearing but a small proportion to the size of the ball. This is most remarkable in a muscular or fleshy part.

" When, however, a ball penetrates an inflexible body, as bone, the effect is different: a portion of the substance penetrated is forced inwards before the ball.—If a bullet pass through a hard body, it will splinter and scale the surface of its egress, while that of its ingress presents an opening nearly corresponding with the size of the bullet. This is illustrated by the effect of a cannon-ball that has passed through the side of a ship, the splinters from which are so dreadfully destructive. Every case of fracture of the skull affords also some degree of illustration. Such fracture happens from a force applied to the part itself; and the portion of bone beaten inwards will always be scaled or fractured farther in the internal than in the external surface.

" In every case of gun-shot wound, whether in a yielding or unyielding part, extraneous matter may be forced inwards.

" There are occasions for the aid of surgery when advice and assistance from afar cannot be obtained; when *instant* decision, *immediate* means, are necessary for preserving life. Of such a nature, generally, are wounds from fire-arms. A lesson this to young surgeons who enter into the service of the army or navy, in the hope of rising to situations of the most serious responsibility.

" There are *two* periods, respecting HÆMORRHAGE in gun-shot wounds, to be particularly regarded. Through the laceration of large blood-vessels, a fatal effusion may *instantly* happen, if not prevented at first by the tourniquet, or other compressive means; and next by ligature, operation, &c.—The second period is, when the bruised and dead parts begin to separate, or slough away. Openings into vessels, and dangerous hæmorrhage, may thence suddenly happen; so that, in cases where, from the circum-

stances

stances of the wound, such an event is apprehended, it is to be guarded against in the most cautious manner.

" There are *two* periods, also, in gun-shot wounds when endeavours to extract foreign bodies are proper:—First, immediately after the accident, before swelling has taken place; and, secondly, when tumefaction, from irritation and inflammation, has subsided by suppuration.

" Enlargement of the wound, when it can be safely done, or an opening at a distant part near which the ball is felt, will often be less injurious than repeated introductions of the forceps into the wound made by the ball.

" When a ball is lodged out of observation, either in the brain or in any part within the belly or chest, it is not to be blindly sought after. Measures best calculated to prevent evils from the presence of the extraneous body, are immediately to be adopted. Effects are then to be watched, and made the guide of future conduct.

" Dilatation of the wound should be made only when plainly required. It may be necessary at two periods of time, namely, immediately after the hurt, for the more ready extraction of the ball, or any other thing that may have been forced into the part; for the more effectual making of ligature, in the case of hæmorrhage; and, sometimes, for the sake of dividing a muscle entirely:—and after suppuration, when the same reasons may call for it as at first; and when, besides, a free exit to matter becomes indispensably necessary. On the last account, dilatation may frequently be useful; for, as the wound is generally zigzag, through the different degrees of resistance of parts, matter is very liable to be retained, and, consequently, to require expedients for its discharge. From the beginning to the end every cause of irritation is to be avoided. Operations of any kind are allowable only as far as they promise obvious definable benefit.

" Applications to the part should be simple and easy.

Fomentation,

Fomentation, and poultice with milk or decoction of poppy-heads, will at first be most proper; and, when suppuration is established, and the vessels need moderate excitement, a poultice of porter and oatmeal will probably be as good an application as can be employed.

"Wounds from fire-arms are practically distinguishable into two stages; the first terminating, and the second commencing, at the period of suppuration.

"During the first stage, the violence of symptoms of irritation and inflammation is to be moderated by bleeding, purging, small doses of antimony, opium, diluting draughts of watery drinks, &c. *Bleeding* should, however, be allowed with the strictest regard to the pulse, as expressive of the strength of the body. It may be copious at first, especially from the divided vessels themselves; but it should be repeated rather in moderate quantities than largely. Topical bleeding, by leeches, will prove more immediately beneficial than by the lancet, and less weakening in its remote effects.

"Inflammation, as necessary to suppuration, and the detachment of dead parts, *must* happen for the event to be fortunate. If, therefore, the strength be so reduced that inflammation cannot be sustained in a due degree, or for a sufficient length of time, the termination will be fatal.

"In every case of necessarily large detachment of parts, suppuration is to be looked for as an event of the utmost importance. Indications will then instantly change, and upon answering them in time will depend principally the issue of the case: for as, during the first stage, means for keeping inflammation within proper bounds are necessary, so when inflammation has terminated in suppuration, when pain, the consequence of strong action of vessels and tension of parts, and fever have ceased, when these symptoms are succeeded by a sinking pulse, general sense of weakness, discharge of matter, and fall of swelling, in the seat of injury;

the lowering means are immediately to give place to those of opposite tendency,—to bark, small doses of opium, good aliment, spice, wine, porter, &c.

"It indeed sometimes happens, from a previously weak state, or hæmorrhage from the wound, that the stimulants just mentioned are necessary from the very beginning. So far from inflammation rising to too high a point, it cannot be raised to or retained at a proper height for all the ends required, through the inflammatory action of the vessels. This is, indeed, a situation of great peril, and calls for the nicest attention; for excitement beyond what the circumstances of the moment demand will prove, in effect, a waste of vital power. The minutes, therefore, must be watched; and according to what they bring forth must be determined the adequateness of remedies.

"Amputation is to be performed only under circumstances unequivocally expressing it to be necessary for the preservation of life.

"Events, in gun-shot wounds and compound fractures, seem to justify the assertion, that success oftener attends amputation after suppuration than when performed before that period.

"There are, however, occurrences in these and other descriptions of cases that at once determine the judgment as to the propriety of *immediate* amputation: and, independently of the hurt, abstractedly considered, there are many things that will have great weight in deciding upon the operation as the best expedient, even when, *prime facie*, the nature of the injury may be such as, under more favourable circumstances, might justify a less severe decision. The situations of wounded people, in a crowded hospital, in an airy plain, in the field of battle, in a chamber of convenience and security, in the anxious moment of engagement, when in quiet possession of a field or the sea, during

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the hurry of a pursuit, the alarm of a retreat, &c. are very different, and will present reasons for acting differently in similar injuries.

"The more topical or limited the hurt, the more proper, generally, will be *immediate* amputation; and *vice versâ*. A wound by a musket-ball in the ankle-joint, and one in the thigh, with fracture, from a cannon-ball, are cases that illustrate this position.—It is the more necessary that an inexperienced person should well consider this rule, as the signs of the greater extent and degree of violence might otherwise be very likely to mislead his judgment.

"The operation should be done completely beyond the seat of *contusion*, as well as of fracture, &c. This plain rule, also, is of great importance: the utmost care, therefore, is necessary in determining upon the nature and boundary of the injury.

"Gun-shot wounds in the joints generally require amputation.

"In every case of wound of a large artery, it is safer to make a ligature upon each divided extremity than to trust to one only: branches may supply the lower portion, and continue or renew hæmorrhage.

"The period of separation of contused and dead parts must be religiously watched. The alarm of bleeding may happen when not expected from any *sign* of contusion; and life will consequently depend upon immediate assistance. The retracting of a vessel or fainting may suspend hæmorrhage, that may afterwards occur, and prove fatal.

"Whenever LIGATURE can be made in the case of an opened artery, it ought to be done. Nothing that bears the title of STYPTIC is to be *depended* upon."

Next to ligature, COMPRESSION is recommended by Mr. Blizard. "This may be made by means of compresses of linen, lint, &c. either against the ends of vessels, upon their sides, or in both ways. *Sponge* is admirably adapted

for pressure; but, when it is employed, the *rationale* of its use should be remembered. The end purposed will depend upon its elasticity. It is, therefore, to be so pressed into or upon the part, as, when expanded, to maintain a proper degree of pressure against the open vessels.

"That MORTIFICATION should often follow gun-shot wounds will not appear extraordinary.

"It is trusted, no surgeon need be told that amputation will not check mortification: or that the operation is not admissible till Nature has said, *Thus far, and no farther*; till, in short, the line of separation of dead parts is manifest.—There are also rules to be observed equally interesting as this maxim,

"SCARIFICATION cannot be of use, except in the dead parts, for the extrication of putrid air.

"The application of oil of turpentine, or any other powerful stimulant, while inflammation is present, must prove injurious.

"Although high action of the heart and vessels may, for a while, be concomitant with mortification; and although, during such a state, the object of surgery is to cool and calm the heated system; yet, sooner or later, the powers will become depressed, and require all the aid of diet and medicine to sustain them in their functions. In this state, wine, opium, and bark, are remedies principally to be depended upon.

"When topical excitement is called for, oil of turpentine, mixed with olive oil, may be proper; but the natural terebinthinate balsams, as balsam of Copaivi, &c. are generally to be preferred*. Aromatic fomentation, with camphorated spirit sprinkled over the flannels; and poultice of beer, oatmeal, and pepper in fine powder; and antiseptics

* "*Camphor*, united with gum-arabic and water, in the form of mucilage, becomes an application very antiseptic and kindly ſtimulative."

to

to the dead parts, as vinegar, diluted mineral acids, spirit of wine, tincture of myrrh, fermentative articles affording fixed air, &c. will be useful.

" The analogy of the changes in bone with those of the soft parts is exact in every particular. The period of the insulated or exfoliated state of a dead portion of bone should be timely ascertained: then it is that surgery may be eminently useful; for, such portion will be felt as an extraneous body, and upon its speedy removal the fate of a limb, or even life itself, may depend.

" Injuries of large nerves, particularly in the extremities, and more especially in the fingers and toes, are most likely to occasion locked jaw: injuries of muscle may be ranked in the next degree among the causes of this dreadful symptom.

" That state of debility, joined with irritability, produced by warmth of climate, particularly disposes to spasm and convulsion; which should be guarded against accordingly.

" To obviate these evils, the system is to be fortified by a generous regimen, bark, &c. while every thing besides is done that is calculated to allay irritation.

" All the parts about the head are highly organized, and thence liable to strong inflammation when injured. Evacuations are therefore to be early and copious.

" Hurts received in the head, as well as the trunk, are dangerous, also, from the proximity of parts important to life.

" Burns from gunpowder are to be regarded in the same light as burns from any other cause. The *degree* of injury from heat, by whatever *medium* applied, is the principal point to be considered.

" In slight burns, cold spring water and vinegar, or cold water alone, applied by means of linen kept constantly moist, generally prove good remedies. In burns of greater degree, it may also be useful during the first two or three

days; when it should be succeeded by fomentation and poultice.

" This case, also, is distinguishable into two stages. All that is appropriate for lessening irritation is to be done in the first period; and the commencement of suppuration, and sloughing, may be considered as the index of the second stage, when wine, bark, &c. will probably be necessary.

" Wounds of every description, and injuries from heat, lead to various states that require the nicest chirurgical regard. The condition of PURULENT SORES, for instance, is what calls for constant attention. Some observations upon that subject may not, therefore, be unacceptable.

" Things applied to purulent surfaces are of a nature miscible with pus, becoming constituents of it, as watery, spirituous, and saline preparations; or immiscible with it, not altering its properties, only retaining it, and defending the tender surface, as oily and waxen substances. They may consist of parts, some of them miscible, others immiscible, with pus; the latter, by warmth and confinement, separating from the former, as in ointments containing metallic and other salts. Subtle, oily, and aërial particles may be disentangled from substances in which they were involved when applied, and may either unite with, or penetrate through, the medium of pus, and so, or in both ways, act upon the vessels of the surface; as when the essential oil of turpentine is evolved from resinous articles, or fixed air is extricated from fermenting substances. Also, some articles act upon sores in a manner purely mechanical, as lint, linen, silk, sponge, &c.

" From what has been remarked, it will appear that the pus prepared by the vessels of the part itself is at all times the *immediate* and proper covering and defence of the sore surface; and, consequently, as there is this medium, that chirurgical dreſſings do not come into contact with the granulated

mulated surface, otherwise than in the manner explained, either by uniting with, or penetrating through, the matter; except at the moment of applying them, after it has been wiped or washed away.

" It will be also plain, that to bring about, and to maintain a proper secretion of pus, are the simple objects of surgery in the treatment of purulent sores; because healing proceeds properly, while the secreted matter is prepared in due quality and quantity.

" Gentle stimulants are often of great utility in keeping up the healing process.

" The effect of acids in correcting the air when abounding with putrid effluvia, particularly in their concentrated state, and elevated in vapour, is well known; but the favourable influence of *vinegar* in SORES is not generally understood. The practice, as it has been many years followed at the London Hospital, consists in the application of linen, frequently wetted with a mixture of one part of common vinegar, and two parts of fresh spring water. The freshness of the water adds much to the efficacy of the remedy: no more, therefore, should be mixed than is required for immediate use, as the water should be instantly drawn from the well.

" Vegetable applications are frequently preferable to those of an unctuous nature. Some plants afford dressings in their foliage entire, as the cabbage, mallow, plantain, &c.; the leaves of others are applicable when bruised, as those of hemlock; and many roots, fresh or boiled, pounded, &c. have proved efficacious in mending the condition of a purulent surface, as carrot, potatoe, onion, &c.

" It may be useful to add a word of caution respecting the use of *vulnerary balsam*, *tincture of myrrh*, &c. in simple wounds. Not a drop is to be suffered to pass into the wound; for it would irritate, form a medium of varnish over the surfaces of the divided parts, and frustrate the intention

tention of its application. The sides and lips of the wound are to be accurately closed, and retained in that state; when some lint, over the line of contact, is to be moistened with the resinous solution, and suffered to dry and harden. In this manner, the parts will be defended from the air, and kept in a state favourable for healing." Z.

ART. III. *Medical Admonitions*, addressed to Families, respecting the Practice of Domestic Medicine, and the Preservation of Health;* with Directions for the Treatment of the Sick, on the first Appearance of Disease: by which its Progress may be stopped, and a fatal Termination prevented from taking place, through Neglect or improper Interference. By JAMES PARKINSON. 2 vols. Crown octavo. pp. 500. DILLY, London. 1799. Price 9*s*.

THE object of this work, the author acquaints us, is to supply families with such information as may prevent them from unnecessarily incurring the expense of medical attendance in various trifling complaints; and from sacrificing a friend, or perhaps a beloved child, by delay, or improper interference, in some insidious cases. Instructions for the cure of diseases *in general*, Mr. Parkinson has very properly omitted; a practice, which has of late been industriously attempted by several writers on domestic medicine, but which has not, it is to be lamented, been attended by those beneficial consequences authors were induced to expect. "On the contrary, it is to be feared that their disciples, not aware of the shallowness of the knowledge thus gained, immediately on the appearance of disease fly with confidence to their oracles; but, incapable of comprehending the various circumstances

* We are informed, that a table of symptoms, and an essay on the injurious consequences of the excessive indulgence of children, are soon to be annexed to Mr. PARKINSON'S *Medical Admonitions*.

comprised in the answers they receive, they frequently adopt the very means they should have avoided, and thereby increase the evils they were endeavouring to remove. It is not a loose and vague assertion, that the directions, given in such a work, are only intended for those cases in which a physician cannot be easily obtained, that will be sufficient to deter a weak mind from obstinately confiding, even in the most serious cases, in the knowledge derived from the perusal of a specious, concise, and apparently comprehensive method of cure.

"Directions," says the author, "for the cure of diseases shall, in this work, be confined to those in which no risk can be incurred, by trusting them to the management of a domestic practitioner. Such diseases will not only be accurately described, but the symptoms will be carefully marked out which distinguish them from those diseases which differ from them in degree of danger, and in the mode of treatment they require. The symptoms of those diseases in which the attendance of a physician, or other medical character, is required, will also be carefully marked; the particular circumstances which render such further aid necessary will be pointed out; and the mischiefs, likely to arise from improper interference, particularized. Since the degree of violence, duration, and danger, as well as the consequent injuries the patient may experience, frequently depend upon the means employed in the first moments of the attack in acute diseases, and upon the conduct adopted on the occurrence of sudden and alarming circumstances in chronic diseases; the most proper means to be employed on these occasions will be distinctly laid down. The utility of these directions must be sufficiently evident, as, particularly in the country, regular medical assistance often cannot be obtained, in these cases of sudden emergency, with sufficient speed; and the distress and confusion of those around the patient will be likely to impede the due exercise

of

of their judgment, and to prevent their exertions being made with that promptness which the situation of the patient may demand.

"Another important task I shall endeavour to perform is, that of instructing the attendants on the sick, how they may best aid the effects of the means prescribed by the physician." A further point Mr. Parkinson aims at is, "to refute those vulgar errors and prejudices which frequently occasion an injurious interference, as well as an equally pernicious neglect during the first attacks of the disease."

By exposing the numerous evils resulting from the too frequent practice of domestic quackery, it may be hoped that the benevolence of the rich will be occasionally directed into more useful channels, especially by giving support to public hospitals and dispensaries.

The work before us is written in a familiar and convictive style, freed from the technical terms of the profession,—a circumstance which will render it of general utility.

These volumes contain observations on fevers, intermittent, inflammatory, slow nervous, putrid malignant, remittent, hectic; inflammation,—of the brain,—eye,—inflammatory sore-throat,—putrid, or malignant sore-throat,—the croup,—mumps,—inflammation of the ear,—toothach,—teething,—inflammation of the lungs,—pulmonary consumption,—inflammation of the stomach, bowels, liver, kidney, bladder, spleen, peritonæum,—rheumatism,—gout,—small-pox,—inoculation—chicken, or swine-pox,—measles,—scarlet-fever,—erysipelas,—miliary fever,—hæmorrhages,—of the nose,—spitting of blood,—piles,—immoderate flow of the menses,—vomiting of blood,—voiding of blood from the urinary passages,—catarrh,—convulsive asthma,—hooping-cough,—dysentery,—apoplexy,—palsy,—fainting,—apparent death,—convulsions,—epilepsy,—worms,—weakness of the stomach,—hypochondriac affection,—colic,—ruptures,—ulceration of the navel

navel of children,—cholera,—diarrhœa,—diabetes,—hysterical affections,—dropsy,—hydrocephalus,—the bite of an hydrophobic animal,—scald head,—thrush,—swallowing of pins,—boil,—carbuncle,—inflammation and abscess of the breast,—chilblains,—schirrus and cancer,—scalds and burns,—effusions of blood from ruptured or wounded vessels—bleeding—leeches,—curvature of the spine,—inflammation of the hip and knee-joint,—fractures of the limbs, and injuries of the head from external violence.

To give our readers an idea of the manner in which this work is executed, we shall extract Mr. Parkinson's observations on the SLOW NERVOUS FEVER.

"It is supposed by some physicians, that the slow nervous fever and the putrid malignant fever are the same species of disease; and that the putrescent state of the fluids, discoverable in the latter, is an incidental circumstance; and therefore, only renders it a variety of the species: whilst others have supposed them to be diseases of entirely different species. But since, from the occurrence of symptoms denoting putridity, a considerable difference is required in the treatment, it is thought proper, without entering into the merits of the question, to treat of them separately; as the more appropriate mode of treatment, in each case, may thereby be more clearly shewn.

"The insidious manner in which this disease makes its attacks, is one reason of its so frequently terminating fatally. The first departure from health is so gradual, and the symptoms so ambiguous, that very frequently the patient will have suffered the disease to have made a very considerable progress, before he esteems it necessary to apply for assistance: and often will a discerning physician, when first called in this disease, discover a patient to be in a very alarming condition, who is not suspected, by himself or his attendants, to be in the least degree of danger. If this be duly considered, it must impress the mind of every one

with a conviction of the necessity of immediate application for regular medical help, at the first appearance of those symptoms, which, in the following history of the disease, mark its beginning. If this be done, there is the greatest probability that the train of dreadful symptoms, which is there described as coming in succession, will be checked in their approach.

"*The History of the Disease.* This disease, in general, begins with extreme listlessness, and unwillingness to move, with a sense of weariness; indifference to food, nausea, depression of spirits; and frequent slight and irregular chills, alternating with transitory flushes of heat. A dull and heavy pain, with a sense of coldness, possesses the back part of the head, and is accompanied by a slight giddiness; the disinclination to motion increases, the countenance is shrunk and pale, bearing evident marks of anxiety; the breathing is performed with some little difficulty, the patient complaining of an oppression on the chest, and a tightness across the pit of the stomach; frequently sighing, without knowing for what cause. The symptoms generally get worse as evening comes on; nature obtaining, at night, some slight refreshment, from short slumbers, interrupted by disagreeable dreams. The urine, in this first stage of the disease, is mostly clear and colourless. These symptoms gradually increase for a few days, when the pulse becomes smaller, and at the same time quicker, than natural; the tongue gets lightly covered with a thin mucous coat, which seems hardly to adhere to it. After the first week is past the symptoms will, in general, be found much increased; the sight of food, especially of an animal nature, excites disgust; the shiverings are less, but the heat is in general more increased, and the cheeks are frequently very much flushed; the anxiety and inquietude of the patient becomes more intolerable, the giddiness and pain of the head more distressing, light and noise occasioning much uneasiness;

uneasiness; the tongue becomes dry, red, and divided by large chaps: the urine, about this time, frequently deposits a bran-like sediment. The patient obtains no refreshment from his slumbers, which are very much disturbed; he frequently mutters vague and unconnected sentences; the hands tremble, so as to prevent his guiding them to his mouth; the fingers are in constant motion; the tendons agitated with frequent startings; the pulsations so small and quick, as with difficulty to be counted; the tongue trembles, and is with difficulty put beyond the lips. A profuse sweating in some, and a frequent purging in others, also occur, as the disease advances. If the remedies which have been had recourse to fail of producing the wished effects, symptoms will soon appear, declaring the near approach of death: these are, a coldness of the extremities, which seem shrunk, and of a pale, and almost livid hue; the nails appear almost of a blue colour; the eyes lose their sensibility and lustre, swimming in tears, which now and then trickle down the cheeks; the stools and urine are voided without the patient's knowledge; the brain becomes so affected, that all recollection and sense is lost. A constant delirium accompanies this state, but without any efforts of violence; the deranged state of the mind, however, being sufficiently evident, from a constant muttering of incoherent and scarcely articulated sounds. Convulsive motions affecting the whole frame, or an insensible comatose state, generally closing the scene.

"But sometimes, even when the greatest part of the above symptoms have come on, and death appears to a common observer as the inevitable consequence, a sudden amendment will take place, produced either by the happy effects of medicine, or some unexpected favourable effort of nature. Instances of such recoveries are by no means uncommon; and render the caution contained in the following paragraph absolutely necessary.

"When the greater part of the above-described appearances are observed in a patient, the despair and consequent inactivity produced in his attendants, however they may be regretted, can by no means be wondered at: the symptoms seeming to shew that death must soon put an end to the calamities of the unhappy sufferer. So great a degree of despair, indeed, possesses the by-standers in these distressing cases, that frequently, when the medical man sees considerable ground of hope, they will in the strongest terms condemn all attempts for his recovery as useless and cruel; since they imagine, that by these supposed vain attempts his torments are increased, and their duration prolonged. To the frequency with which this idea is adopted may be attributed the death of numbers: for it seldom happens, when this opinion is entertained, that the strongest remonstrances of the physician can produce the least exertions of the attendants, except, indeed, during the time he is present; for immediately after his departure all exertions cease.

"It is a circumstance that must have occurred often to every medical man, that having left a patient in this, or the putrid fever, with the most earnest entreaties to his attendants, to supply him regularly with medicines, and almost constantly with nourishment, he shall be told, at his next visit, that they have not been able to procure the swallowing of a drop of either: and should he order the experiment to be made before him, it will frequently happen, that the patient will take what is offered to him not only with ease, but with avidity. Such conduct cannot find a sufficient excuse in misapplied tenderness; since the consequence resulting from so culpable an omission may be the death of one, who otherwise might have been saved: for, in all the long catalogue of diseases to which we are subject, there are none in which symptoms of so alarming an appearance are to be found, and where so great a possibility of

recovery

recovery may exist, as in this, and the putrid malignant fever. Instances of recovery from these diseases have been so really wonderful, that, so long as the patient breathes, his attendants should not devote themselves to despair, but should persist in their endeavours with unabated assiduity.

"Having already given you reason to suppose that I would not scruple to step out of my way to give an useful admonition, I shall not apologize for the digression, but point out one of the disadvantages resulting from intemperance. A physician, who is called to a patient afflicted with this, or the putrid fever, will not fail to make inquiry respecting his former mode of living, since on the answer he obtains his prognostic of the event of the disease will considerably depend; for, should the patient have unhappily devoted himself to habits of debauchery and intoxication, there will be greater reason to apprehend a fatal termination of the disease.

"To attempt to furnish the domestic practitioner with information sufficient to enable him to undertake the cure of this fever, would be fruitless; since it would be certainly safer to omit medicine entirely, than to entrust the management of the patient, in so dangerous a malady, to any but those who are enabled, by their knowledge of the human frame, and of the diseases to which it is subject, to distinguish critical and salutary changes from those which are of a contrary tendency.

"So general is an aversion to medicine, and so great is its sway over weak minds, that every circumstance which tends to support its tyranny ought to be opposed; since it is not to be doubted, that many have lost their lives, rather than mortify their taste, or give up prejudices, which would appear ridiculous even in a child. Dr. BUCHAN, whilst treating of the nervous fever, says, 'Though blistering, 'and the use of cordial liquors, are *the chief things to be de-* 'pended on in this kind of fever; yet, *for those who may choose* 'to use them, we shall mention one or two of the forms of

'medicine, which are commonly prescribed in it.' Now, it is very reasonable to suppose, that many, who are guided by those strong aversions and prejudices which I have just mentioned, if attacked with the disease we are treating of, would eagerly catch at this authority, and refuse to make use of any thing, but *blisters and cordial liquors; they being*, they would say, *the chief things to be depended on in this kind of fever:* leaving other remedies *for those who may choose to use them.* The very great attention which has been of late years paid to this fever, has rendered the practice of physicians of these days exceedingly successful; so much so, that the case must be attended by extraordinarily dangerous circumstances to prevent a cure being accomplished, even if the patient have but a small degree of strength left. But, notwithstanding this, the best informed physicians know, that the various distressing symptoms which occur, oblige them to have recourse to several powerful and useful articles of the materia medica.

"*The Regimen.*—After the stomach and bowels have been cleared, the patient may be supplied with food, of a light and nutrient kind; such as sago, rice-gruel, panada, and salop, according as his inclination may dictate. Good white wine may be added to these, as may be indicated by the state of the pulse, and degree of languor; and, for the sake of variety, he may be allowed to drink of red wine negus, bottled cyder, perry, and particularly, if the patient entertains a desire for it, porter. Animal food should be avoided, unless the patient is anxious for it, when it will seldom do harm. But when the patient regains a desire for food, it will be best to begin with puddings of various kinds, shell-fish, &c. resuming his usual diet gradually, as he finds his health return."

The discerning reader will be enabled, from the above specimen, to form a tolerable opinion of the author's style and abilities. A.

ART.

ART. IV. *An entire new Treatise on Leeches: wherein the Nature, Properties, and Use of that most singular and valuable Reptile,* IS *most clearly set forth.* By GEORGE HORN, Apothecary. Octavo. pp. 29. SYMONDS, London. 1799. Price 1*s.* 6*d.*

THE writer of this humble performance says he has "made diligent search for some useful and intelligent account of leeches; but found none, either ancient or modern: and how creatures *so* singular in their nature and properties, *so* eminently useful, and *so* very valuable, should have been *so* long and entirely neglected in this respect, he is much surprised!!"

It would indeed have been surprising if the natural history and uses of the leech had been hitherto undescribed; and it would have been almost as remarkable, if no better account of it than the present had ever been offered to the public: but the fact is, that this subject has been handled judiciously by various writers, from the time of THEMISON (above 1700 years ago) down to the present age.

One of the best *modern* tracts we have seen on the Sanguisuga is that of J. L. SCHMUCKER, entitled "Historich-Practische Abhandlung vom Medicinischen Gebrauche der Blutigel," included in his "Vermischte Chirurgische Schriften," 8vo. Berlin, 1785. Y.

ART. V. *A View of the Science of Life; on the Principles established in the Elements of Medicine, of the late celebrated John Brown, M. D.; with an Attempt to correct some important Errors of that Work: and Cases in Illustration, chiefly selected from the Records of their Practice at the General Hospital, at Calcutta.* By WILLIAM YATES and CHARLES MACLEAN. *To which is subjoined, a Treatise on the Action of Mercury upon Living Bodies, and its Application*

cation for the Cure of Diseases of indirect Debility; and a Dissertation on the Source of Epidemic and Pestilential Diseases; in which is attempted to prove, by a numerous Induction of Facts, that they never arise from Contagion, but are always produced by certain States, or certain Vicissitudes of the Atmosphere. By CHARLES MACLEAN, of Calcutta. Octavo. pp. 231. YOUNG, Philadelphia. Price 3*s.* 6*d.*

THE authors of this publication are of opinion, that the doctrines contained in Brown's *Elements of Medicine* evince "one of the grandest efforts of the human mind that ever dignified the page of science, the discoveries of the immortal Newton himself not excepted;" and so firmly are they persuaded of the infallibility of the system here developed, that they assure us "As soon will eyes in a sound state be unable to distinguish light from darkness, as a mind capable of comprehending the terms can disbelieve the fundamental propositions of the doctrine of life."

In order to afford the reader "a general idea of the mode in which the principles of this doctrine should be applied to practice," we shall give a short abstract of the treatment adopted in several diseases by Messieurs Yates and Maclean; although, for the credit of the profession, it is hoped there are but few practitioners who will feel disposed to imitate or commend their temerity.

A patient, "in a state of extreme debility, with excessive purging, and bloody stools," came under the care of Dr. Yates. He immediately ordered 80 drops of the *tincture of opium* to be given morning and evening. The dose was presently augmented to 150 drops, thrice a day; with glysters, containing 200 drops, repeated every three hours. In a short time 400 drops were ordered in the enema, every two hours; and the draughts, with 200 drops, were likewise directed every hour. On the eighth day, from the period when this patient came under Dr. Yates's management, glysters,

glysters, with 500 drops, were administered to him every hour, together with the draughts of 200 as before. On the tenth day, the draughts containing 300 drops were given every hour; the glysters of 500 being also continued. At this time (1st of September) says the Doctor, "eight P. M. he was much worse; had eight stools during the day, and no sleep; his pulse was 120, and he was so extremely weak, that I considered him as approaching to dissolution. *Draughts of* 500 *drops each were ordered to be given every hour, and the glysters of* 500 *drops to be continued as before.*—2d, he had not slept, but felt himself better; pulse 104; his medicines were continued in the same manner during the whole of that day. On the 3d, his pulse was 100; he had slept well the preceding night; his medicines were continued. On the 4th he was much better, had dosed much, and had only two stools; the draughts were directed to be taken occasionally, as circumstances might indicate.—This plan was continued until the 14th, at which time his mouth became sore, and the flow of saliva was increased, as if he had been using mercury. The draughts and glysters were, from that period, ordered to be repeated occasionally, according to his own discretion.—On the 22d, the discharge of saliva continued in the same state.—On the 26th, he was better; and his bowels easy.—29th, he continued without pain, with two or three stools in the day, and his strength increasing.—On the 30th, when I discontinued attending him, he had only two stools in the day, without pain, and felt a returning appetite. Being a sensible and steady man, he was at that time allowed to proportion the strength and frequency of the draughts and glysters according to his own judgment. During the whole of the time that he was under my care, he had an allowance of *wine, from one to two or three bottles in the twenty-four hours*, according to exigency."

Another patient, having "pain of the bowels and frequent stools," was treated with opium and mercury conjoined.

"On the 1st of September, calomel and opium, of each two grains, every second hour, and a draught of eighty drops of tincture of opium, twice a day, were prescribed. The symptoms still increased in force. On the 3d, he had very frequent stools, with violent pain in the bowels, and could not bear the least pressure on the caput coli. His pulse was 132, thirst extreme, tongue furred; and he had no sleep. Half an ounce of mercurial ointment and one drachm of calomel were rubbed in. The calomel and opium were given every hour. On the 4th his pulse was 120, he had vomited through the night, tongue brown and furred. The ointment was rubbed in, and to be repeated at twelve o'clock; the pills of calomel and opium were continued.—9 P. M. pulse 130; he had several stools during the day; tongue dry; he thought that he spit more than usual, but his mouth did not seem affected; one ounce of ointment and two drachms of calomel were rubbed in, and the pills were continued. On the 5th, his pulse was 120; he complained of violent pain in his bowels; the medicines were continued as the day before.—6th, his pulse was 100; he complained of violent pain on pressing the arch of the colon; had frequent stools, with profuse perspiration, and appeared to be much alarmed and dejected; no increase of the quantity of saliva; the ointment and pills were continued in the same manner.—7 P. M. his pulse was 124; in other respects as before; he was immersed in the warm bath, and afterwards had one ounce of ointment with half an ounce of calomel rubbed in; the pills were continued.—7th, pulse 112; complaints were nearly as the day before. He had an eruption upon the skin, such as usually appears when salivation cannot be produced after having used a large quantity of mercury. The warm bath, with the ointment and calomel, were repeated; and the calomel in the pills was increased to four grains.—8 P. M. pulse 128; he had incessant stools, accompanied by violent pains of the abdomen;

domen; his tongue was brown and furred, and skin covered with profuse moisture. The bath was ordered to be repeated, and *an ounce of ointment, with two ounces of calomel, to be rubbed in, immediately after the bath. A scruple of calomel and six grains of opium were ordered to be given every second hour.*—8th, pulse 112; he had incessant stools, with violent pain. He felt ease from the warm bath; had taken five doses of the calomel and opium. The warm bath was ordered to be repeated three times in the day, the ointment and calomel to be again rubbed in, and the pills to be continued. 8 P.M. pulse 120; there was no increase in the quantity of saliva from the mercury; he had incessant stools with blood; and was extremely debilitated. Had taken six doses of the calomel and opium in the course of the day. Could not bear the least pressure upon the colon. The warm bath was ordered to be repeated, and afterwards TWO OUNCES OF OINTMENT, WITH FOUR OUNCES OF CALOMEL, TO BE RUBBED IN. THE CALOMEL AND OPIUM TO BE GIVEN EVERY HOUR.—9th, pulse 112, and small; he had stools innumerable; the medicines were continued. 9 P. M. his pulse was almost imperceptible, and extremities cold. The medicines were continued as far as circumstances would admit.—10th, at one o'clock, A. M. he expired." *No wonder. Who could survive such treatment?*

An ensign fell from the maintopmast-head upon the quarter-deck, and was rendered entirely insensible; much blood was also discharged from his mouth, nose, ears, and eyes: upon examination, however, no fracture was found, although marks of contusion were very general over his body. Mr. Maclean resisted the entreaties of several practitioners, who desired the patient might be blooded. "He was my friend," says he, "as well as my patient; and, in defiance of obloquy, I determined to do what appeared to me best in order to save his life. Externally the most powerful stimulating substances were applied, in concourse or suc-

cession. For four days he could not move in bed without excruciating pain. He had small opiates occasionally, *wine, and nourishing food;* and once half an ounce of sal catharticus amarus, so as to produce one stool. Nothing more was done. He had not an unfavourable symptom. The pains gradually abated; and on the eighth day, from the fall, he was carried upon deck in a chair.

"That there was absolutely a considerable degree of concussion in this case, appears from his having wholly lost the sight of one eye; although, when the marks of contusion had disappeared from that side of his face, the eye looked almost as well as the other. He complained at times of headach, which was always relieved by wrapping up his head in warm cloths.

"The issue of this, as well as of every other case of contusion or concussion which I have seen treated, either in or out of hospitals, convinced me that blood-letting is not only unnecessary, but pernicious. In private practice, I fear, a mean and criminal compliance with vulgar prejudice, in order to conciliate vulgar favour, too often influences practitioners, whose better judgments would lead them to reject entirely so deplorable a remedy: a remedy, of which the use is not only contrary to all principle, but which, so far as I know, *cannot adduce a single uncontrovertible fact in proof of its utility.*"

Robert Williamson was treated by Mr. Maclean with liberal doses of calomel and opium, according to the Brunonian system; but the patient died. "This was undoubtedly a case of the most violent peripneumony." The reader need not be told what would have been the common plan of cure in this disease: but let us hear what kind of logic our author opposes to the ordinary treatment. "There is not an inflammation with which we are acquainted that is not to be cured (as far as it is curable) by the application of stimulant powers,—as warm fomentations, tincture of opium,

tincture of cantharides, camphorated spirits, æther, volatile alkali, and mercury. If any person seriously doubts the fact, it will be an easy matter to submit it to the test of experiment.—And if there be any other reason for persevering in the practice of blood-letting than because it is derived from the hypotheses of the schools, and is conformable to custom, let it be produced. But as blood-letting is a directly debilitating operation,—the abstraction of an ordinary and powerful stimulus,—it must *always* be highly injurious. In diseases of direct debility, as far as they can become subjects of medical treatment, it must add to the accumulation; in those of indirect debility it must increase the exhaustion. It is upon the supposition alone that some diseases depend upon a state of excessive excitement, that blood-letting can ever be thought admissible. And that such a state does *not* exist has, in my opinion, been fully proved. I know it will be urged, by individuals, that they have found blood-letting useful. But this, like many other medical facts, is mere assertion, not proof. Whatever has been useful in one case must be useful in every similar case of disease. But it is not so with blood-letting.—It has not invariably been found useful in any one disease. We may, therefore, I think, fairly conclude, that it has *never been useful in any* ONE CASE *of disease.*"

The principles adopted by Mr. M. induced him to administer mercury in all the cases he had met with of *sea-scurvy*; and he says it was found to be a "certain cure." Scurvy, and various other diseases which have been considered by authors "as arising from the abstraction of stimuli, would seem to be diseases of exhaustion, or of direct debility." He denies that "a state of excessive excitement" (otherwise called plethora) has any existence, and maintains that the term "excessive vigour" implies a contradiction.

"PERIPNEUMONY, in reality, is seldom a dangerous disease, until, by blood-letting, and other debilitating means,

means, inflammation and adhesion of membranes, suppuration, and dropsy, are produced. Has a person ever died in a state of excessive vigour? No, nor ever will. No danger, then, need be apprehended from such a state.

"If it be a certain fact, that opium, judiciously repeated, will prevent or cure those very symptoms which an unskilful application of it may have produced; if, by the proper exhibition of mercury, that medicine may be given, not only without producing salivation, but so as to cure it; if the sickness and headache that occur after excessive drinking may not only be prevented by a gradual diminution of the excess, but may be cured by the application of a certain degree of the same power: if, I say, all these be facts (and they will be found so by those who will give them a fair trial,) the inevitable conclusion is, that all the diseases in question depend upon a state of exhaustion, or of indirect debility, and are to be cured by the application of *stimulant* powers in a degree proportionate to the exhaustion."

Let these fair specimens of this *unparalleled* "DISCOVERY" suffice: but if the reader be not satisfied, he may peruse the original. U.

ART. VI. *Reflections on the Propriety of performing the Cæsarean Operation: to which are added, Observations on Cancer, and Experiments on the supposed Origin of the Cow-pox.* By WILLIAM SIMMONS, Member of the Corporation of Surgeons in London, and Senior Surgeon to the Manchester Infirmary. Octavo. pp. 97. VERNOR and HOOD, London. 1799. Price 2*s.* 6*d.*

THE author of this pamphlet informs his readers that he has been induced "*by a late occurrence*" to reconsider the Cæsarean operation, against the performance of which he

here

here declaims with great warmth. What the occurrence is to which he alludes, we learn from a publication by Dr. Hull, which is reviewed in our following article.

Mr. Simmons quotes the opinions of many writers to strengthen the objections he offers against the operation in question, which he condemns in the most unqualified manner: but it is rather singular, that after having done this, he should proceed to consider the best mode of performing it, and to give directions for the after-treatment of the wound.

On the whole, we have found nothing in these Reflections worthy of particular notice, except it be a revival of the proposal to divide the symphysis pubis, in order to make way for the use of the crotchet, in cases where the brim of the pelvis is no more than one inch in diameter.

In the observations on cancer, we meet with a case of this disease in the breast, in which considerable benefit was derived from the internal exhibition of arsenic. It was given in doses, first of twelve, and afterwards fifteen drops of Dr. Fowler's mineral solution, three times a day. At first it produced great uneasiness in the stomach and bowels, with considerable general disorder; but after five or six weeks the pain abated, the discharge was less fœtid, and of a better consistence; several insulated points of cicatrization appeared, and at length the patient was so easy, as to leave off the use of opium entirely. Mr. S. does not imagine arsenic will cure the patient, but recommends it to the notice of practitioners as "*an anodyne*" of considerable power and utility in this disease. So far as a single case can go, the instance related by Mr. Simmons is certainly in favour of its use. The practice, however, is not new.

At the conclusion of the pamphlet, Mr. S. relates several experiments he has made, which tend to prove "first, that the cow-pox poison does not originate in the horse's heel; secondly, that cows will not take the small-pox." O.

ART.

ART. VII. *A Defence of the Cæsarean Operation, with Observations on Embryulcia, and the Section of the Symphysis Pubis.* Addressed to Mr. W. SIMMONS, of Manchester, Author of "Reflections on the Propriety of performing the Cæsarean Operation." Containing some new Cases, and illustrated by seven Engravings. By JOHN HULL, M. D. Member of the Corporation of Surgeons, and of the Physical Society of London; of the Natural History Society of Edinburgh; and Secretary of the Literary and Philosophical Society of Manchester. Octavo. pp. 229. BICKERSTAFF, London. 1799. Price 5*s.* 6*d.*

DR. Hull, considering himself as injured by the Reflections on the Cæsarean operation which have been published by Mr. Simmons, has written the work before us in answer to those Reflections; not for the sake of defending the operation only, on which he means to treat more largely hereafter, but to justify his own recent performance of it, alluded to by Mr. Simmons as "*a late occurrence.*" This he does at considerable length, pointing out many errors in the quotations brought forward by that writer, and animadverting upon them with a considerable degree of severity.

Dr. Hull chiefly attributes the ill success of the Cæsarean operation in England and Scotland to the previous disease under which some of the patients had laboured, and the exhausted state to which others had been reduced before the operation was proposed. The number of cases in which it has been performed in these kingdoms amounts to seventeen; in fifteen of which the mother died. But Dr. Hull has shewn that five of these women, besides other complaints, were afflicted with mollities ossium; five were much exhausted by the long continuance of labour, severe vomitings, or the previous inflammation of some abdominal viscus; and the particular circumstances of four are not related: so

that

that *one only* can be clearly ascertained to have been in a state favourable for the operation.

" The number of children born alive, of these fifteen unfortunate females, is eight at the least; and if the operation had been submitted to in due time, it is very probable, that all of them might have been preserved, for in no kind of birth is the child so little exposed to injury, as in the Cæsarean.

" The kingdoms of Great Britain and Ireland are therefore indebted to the Cæsarean operation for the lives of eight children, and two women, who would in all probability have sunk under the unavailing pains of labour, or the attempt to perform the operation of embryulcia; since the attendant practitioners saw no possibility of saving any of them by that mode of practice."

Dr. Hull next brings forward three cases, in which the operation was successfully practised abroad, and refers to a great number more, which are related by Monsieur Simon, and other writers. After a variety of additional observations, in reply to different parts of Mr. Simmons's pamphlet, Dr. H. gives a detailed account both of the case Mr. S. has alluded to, of another, in which also he performed the operation, and of that in which it was performed by Mr. Kay of Forfar. These cases are highly interesting. We shall insert an abstract of the first, being that which has given occasion to the present controversy.

" *The Case of Ann Lee.* On Sunday the 23d of September 1798, about ten in the evening, I was desired to visit this poor woman, then living in Cumberland Street, Manchester.

" From Mr. Brigham, whom I met in consultation, I learnt, that on Monday night she was attacked with a convulsion; that on Tuesday she experienced a similar attack; and that on Wednesday she had five convulsive paroxysms, which were very severe, and succeeded by stupor and deli-

rium; that he had ascertained the pelvis to be very much deformed at its superior aperture on Tuesday, and had intimated his doubts as to the possibility of a delivery *per vaginam* to the attendants; that on Thursday, the orificium uteri was dilated to about the size of a crown-piece, the membranes burst on that day, and the os uteri, on Friday, was become again so much contracted, as scarcely to admit one finger, and the presentation of the child still indistinct; and that on this day (Sunday the 23d,) finding no change, he judged it impossible to deliver her with the crotchet. The patient considered the child as alive, and the attendants believed they had very lately felt the motion of it externally.

" Our patient was twenty-seven years of age; of very low stature; was ricketty when an infant, and unable to walk at all till she was two years old; she had enjoyed a good state of health during her pregnancy; but had never been subject to convulsions, except during the period of dentition: she had been in labour since the morning of Friday the 14th.

" Her pains were now very frequent and excruciating; her belly painful on very slight pressure; her pulse beating from 140 to 160 strokes in a minute; her hands clammy and cold; and her spirits and strength much exhausted. On an examination, *per vaginam*, I ascertained that the head of the child presented, and I could distinctly feel a *suture*; but every part of the head was above the superior aperture, and at some distance from the orificium uteri, which was thick, rigid, and so much contracted, that it would not, without difficulty, admit the introduction of more than one finger. A portion of the cervix uteri was within the cavity of the pelvis, and both this part and the vagina were extremely sensible to pain; for she could not bear the gentlest examination without uttering the most piteous complaints.

" It was not an easy method to ascertain, with precision,

cision, the dimensions of the conjugate diameter at the brim of the pelvis, owing to the cervix uteri being interposed between the symphysis pubis, and os sacrum, as stated above: but after taking a great deal of pains, I satisfied myself, that there was not, in any one point, from the anterior to the posterior part of the superior aperture, the space of one inch and a half, and that the parietes uteri occupied more than one third of this space. The inferior aperture of the pelvis did not appear to me to be very different from the common size and form.

"After a consultation of great length, in which every circumstance of the case was fully considered, we were unanimously of opinion, that there was very little chance for the recovery of the mother, and that the Cæsarean operation, as giving the only chance for preserving the child's life, was the most eligible practice that could be adopted, and much preferable to suffering the poor woman to die undelivered.

"Every thing being previously prepared for the operation, I performed it in the following manner, about five o'clock on Monday morning. I made a transverse incision, nearly six inches in length, and higher than the umbilicus, in the right side of the abdomen, to which part the fundus uteri was inclined, through the integuments, muscles, and peritonæum. I then made an incision of the same length, and in the same direction, through the parietes of the uterus, and with great ease and expedition extracted a child, rather larger than the middle size, and which, from the separation of the cuticle, appeared to have been dead some days. The placenta was extracted, at the wound, without any difficulty. The intestines now began to protrude at the wound, and it was not without a great deal of attention and trouble that they were reduced, and retained in the cavity of the abdomen, whilst I stitched the external incision, by means of the uninterrupted suture, carefully avoiding the peritonæum.

"The quantity of blood lost during the operation was believed not to exceed three or four ounces; and no artery was divided that required a ligature, or any application to be made to it for the purpose of restraining hemorrhage.

"The poor woman bore the operation with great fortitude, and almost without uttering a complaint. Before she was removed from the table, she became faintish, and had a propensity to vomit. She was carried to bed as soon as possible after the operation, and took about thirty drops of tinctura opii in a draught. Her pulse was at this time more feeble, and equally as frequent, as before the operation.

"On visiting her at ten o'clock the same morning, the symptoms were become so extremely unfavourable, as not only to preclude all hopes of her recovery, but all expectation of her remaining alive many hours. Her pulse was excessively frequent, small, weak, and irregular; she was extremely faint, and restless; her face was pale, and contracted; her respiration was very much hurried; but she was not delirious.—No discharge had taken place *per vaginam*.

"From this time she sunk gradually, and expired about eleven o'clock, six hours after the operation.

"Having obtained permission to inspect the body of our ill-fated patient, Dr. Le Sassier, Mr. Brigham, Mr. Tomlinson, Mr. Hall, and myself, assembled in the evening of the same day.

"On opening the abdomen, which was not much tumefied, we observed a thin coagulum of blood, overspreading a part of the uterus, and extending, on each side, over a portion of the small intestines. It was supposed to weigh about two or three ounces. This being removed, the uterus was found moderately contracted, and contained a small quantity of coagulated blood within its cavity. The lips of the wound were near together, but were not, in any point, united. There was no appearance of inflammation in the immediate vicinity

vicinity of the wound; but that part of the peritonæum, investing the hypogastric region, and the inferior portion of the body and cervix uteri, exhibited very strong marks of inflammation.

"The pelvis being cleared of all the soft parts, diminishing its capacity, the dimensions of the superior aperture were accurately taken, and found to be as expressed in plate 3, engraved from a drawing which I made; viz.

"The *diameter*, in the widest part, four inches and a quarter.

"The *conjugate diameter*, taken from the *symphysis pubis*, to the nearest point of the projection of the *os sacrum*, one inch and five-eighths.

"The *conjugate diameter*, taken from the *acetabula* to the projection of the *os sacrum*, one inch and nine-sixteenths, on each side.

"And the dimensions from the anterior to the posterior part of the pelvis, beyond the points specified, were still narrower on both sides.

"The distance from the anterior, and superior, spinous process of one *os ilium* to the other was eight inches and a half.

"The dimensions of the inferior aperture and cavity of the pelvis were not taken, as they did not appear materially contracted. The child was larger than the middle size. The *base of its cranium*, taken from the point of one *processus mastoideus* to the other, and strongly compressed between the callipers, measured one inch and seven-eighths.

"The body of this poor woman being measured, was found to be only four feet two inches in height.

"*Certificate.*—We, whose names are hereunto subscribed, do certify, that the above statement, so far as we were respectively concerned, is accurate; and, that we are decidedly of opinion, from a careful comparison of the dimensions of the pelvis with the volume of the child, that

Ann

Ann Lee could not have been delivered by the perforator and crotchet.

"RICHARD HALL,—WM. BRIGHAM,
"P. LE SASSIER,—G. TOMLINSON."

In the second case, the life of the child was preserved; and in both Dr. Hull appears, as far as we can judge from this account, to have acted with much ability and discretion. S.

ART. VIII. *A new System of Physiology; comprehending the Laws by which animated Beings in general, and the Human Species in particular, are governed, in their several States of Health and Disease.* By RICHARD SAUMAREZ, Surgeon to the Magdalen Hospital. Octavo. 2 vols. pp. 990. Cox, London. 1798. Price 14*s*.

MR. Saumarez informs us, that "To explore the nature of the principle of life, and assert its power,—to investigate the attributes of organized life, as the instrument by means of which the phenomena of organic action are produced, and the final cause of animated existence attained throughout the universe, constitute the especial object of this work."

In pursuance of this design, Mr. S. treats On the general properties of common, of living, and of dead matter;—On the particular properties of living and dead matter;—Of common matter;—Of the materialists;—Of the oxygenous philosophers;—Of the Brunonian system;—Of Dr. Darwin's doctrine;—The procession of living beings;—Final cause of vegetable existence;—Final cause of brutal existence;—The sentient principle is not the same as the living;—The final cause of human existence;—Of the means by which the final cause of human existence is attained;—Of the College of Physicians; Of the Corporation of Surgeons;—Of the means by which individuals attain the

the final cause of their existence;—The relation man bears to the Deity;—The relation of Deity to man;—Of the anatomical structure of the vegetable system;—Of the decomposition and death of the vegetable system;—Of vegetable temperature;—Of the mode of propagation in different animal systems, from the most simple to the more complicated;—Of the mode of generation of the kangaroo;—On the proximate cause of œstrum;—Of propagation in the human species;—Of menstruation;—Of the testes, or generating organs of the male;—Of the energy of the living principle of the human species in the process of evolution;—On predisposition in general;—On the blood, or subject matter which the different organs employ;—Of the means by which the blood is meliorated in quality from the deterioration it sustains;—On inspiration;—Of the means by which the blood is distributed from the lungs to the different parts of the system;—On the Linnæan classification of the animal kingdom;—Of the means by which the blood is supplied in point of quantity from the waste it sustains;—On the different species of aliment that are employed by different animated systems;—The agents by which the sensible properties of solid food are destroyed, with respect to bulk or quantity;—Of manducation—of the teeth—of deglutition;—Of the powers by which food is assimilated, and chylification perfected;—Of the stomach;—Of the pancreas;—Of the spleen;—On the hepatic system;—Of the powers by which chyle is absorbed and blood supplied;—Of the lacteal vessels;—Of the lymphatic absorbent vessels;—Of the means by which the blood is depurated from the deterioration it has sustained, and how conveyed;—Of the veins;—Of the different degrees of power in the vascular organs of different systems;—Of the different degrees of power in the respiratory organs of different animated systems;—Of animal heat;—Of the excretions in general;—Of the urinary excretion, or first mode;—On perspiration, or second

cond mode of excretion;—On expiration, or the third and last mode of excretion;—On death;—On dissolution, caused by the energy of nature;—Of common matter;—Of the arrangement of different species of common matter.

It will be seen from this view of the contents of these volumes, that they contain more than the title gives us reason to expect; and though we must praise the author's industry in collecting so great a quantity of materials, it is evident that several articles are very unnecessarily introduced.

The principal object Mr. Saumarez has in view, appears to be a refutation of the Brunonian system; but we fear he has chosen rather too wide a field for the combat, in composing a whole system of physiology. It would most probably have answered his intention better, had he controverted the Brunonian, and other doctrines which he opposes, in a separate publication, and composed his Physiology more at leisure: he would then have written it more correctly, and have better arranged his facts. The physiologist should of all men the most carefully avoid the introduction of local and temporary disputes into an elementary treatise, of which, if admitted, they are sure to impair, if not wholly to destroy the utility.

Mr. S. has apologized for the defects in this work by saying, "it was written with *too much velocity* for him to hope that the style should always be correct, or the periods otherwise than rough and unpolished."—But the writers of SYSTEMS, in any science, should never forget the precept of Horace—

> Sæpe stylum vertas *iterum quæ digna legi sint*
> *Scripturus.*

We have felt it our duty to make these observations; but at the same time we feel it equally so, to acknowledge that many passages may be read with pleasure and improvement. As a specimen we shall insert the following, in which the

author has been more correct in point of style, than in most other parts of the work.

The internal lymphatic absorbent vessels arise "with open mouths from the internal surface of circumscribed cavities; from the different interstitial parts of the system, from the soft texture of muscles, from the solid fabric of bones, and, in short, from every part that is distinguished by any organization. The absolute necessity of these vessels will be more apparent, if we revert to the different periods of evolution which different organs sustain, and the progressive decay they undergo after they have answered the end for which they were formed. Thus it is that the thymus gland, which is of considerable magnitude in the fœtal state, and which no doubt answers some office, (unknown indeed to us,) is taken up and removed; that the alveoli, which enclose the milk teeth, are absorbed in proportion as the evolution of the second set takes place. It is by their action that the immense magnitude which the uterus has attained during the period of gestation becomes diminished and reduced to its original size, after parturition has taken place. During the virgin or unimpregnated state of this organ these vessels can scarcely be detected. On the contrary, when they are employed in pulling down and unbuilding the fabric of this organ, they acquire the enormous size of a quill.

"It is through the energy of these vessels that the cancelli of the bones are absorbed, and that morbid tumours are dispersed; that the preternatural accumulation of serum and pus in circumscribed cavities, as the thorax, abdomen, and scrotum, is frequently removed, the ulceration of the integuments effected, and accumulation of purulent matter discharged. They in fact seem designed to preserve the system in a sound condition, by acting upon and removing the parts of which it is composed, that are in a state of disease, or when preternatural accumulation exists, that might

impede the functions of parts, or bereave them of the power of acting. The active power which these vessels possess, has been ascertained by various experiments. Six pints of warm water were injected in the abdomen of a living dog: six hours after, he was killed and opened, and four ounces only of the fluid was found to remain; and it must have often fallen to the observation of most practitioners, to have seen great accumulations of water in the abdomen removed in a very short time by the energy of these vessels.

"That these vessels are destined to preserve the system in a state of health, by removing the parts of it which are dying and diseased, is further proved from the emaciation which we behold in consequence of their actions during the progress of nearly all complaints, whether they are produced by that worm that always accompanies anxiety of mind, or corporeal causes of a morbid kind. This idea is further corroborated from the rapid manner in which the effect is produced in diseases of debility, as the scurvy, typhus fever, &c. It is proved also from absorption taking place in weak rather than in strong parts, in such as have been newly formed, than in those of an original construction. Thus it is that we have ulceration of the skin, from pressure—of the gums, from scurvy; and we are informed by the elegant author of Lord Anson's Voyage, that some of the seamen that had fractured bones, and which had been united for many years, had the connecting callus absorbed, and the fracture reproduced, without any exciting cause externally applied.

"That weakness of the solids and fluids of the animated system excites the action of the lymphatic absorbent vessels, is further proved from the impression of fear. A friend of mine had a boy under his care, having a large collection of serum in the abdominal cavity, which he had determined to evacuate by the operation of tapping. On the day that the operation was to be performed, the boy was seized with

such

such terror, that it was thought prudent to suspend the operation. On examining the abdomen the next day, it was found to be considerably softer, and that a considerable absorption of the fluid had taken place: it continued from that time progressively to increase, and in a short time the fluid totally disappeared.

"Malpighi was of opinion, that the action of these vessels continued after the other actions of the system had ceased; and instituted some experiments to prove his assertion. The fact, however, was ascertained by Mr. Cruickshank. He tied up the trunks of the arteries and veins belonging to a portion of the great intestines of an ass, after it had been dead a few minutes (the intestines were still in the cavity of the abdomen, and the parts were not cold.) 'I knew,' says he, 'that the trunks of the absorbents must 'be enclosed in the ligature, although not one of them was 'then visible. Two hours after I returned, and found a 'number of absorbents tinged with a transparent lymph. 'I opened one of the largest with a lancet: the fluid issued 'in a stream; which it could not have done unless the 'vessels had continued to absorb, or to propel their fluids 'with great force after the death of the system*.'

"And finally, I have frequently seen large œdematous swellings on the feet completely removed after the total suspension of respiration, not from a more extended diffusion of the serum in the cells of the cellular membrane, because the position of the limbs continued the same all the time; it could only proceed from the action of the lymphatics having continued after the action of the vascular system had terminated.

"That the action of these vessels continues under the lowest possible state of general debility that can be conceived, is proved by the phenomena we behold in torpid

* "See his Treatise on the Absorbents."

animals. It is a fact, that the bears in Greenland, during the summer and autumnal months, are remarkable for the quantity of fat with which they abound, until they become torpid. They remain in this state during the long period of a polar winter, and when the spring returns they are always found bereaved of all their fat, emaciated and lean: an evident proof, that although the general actions of the system were suspended, those of the lymphatics still continued *.

"We may therefore conclude, that the lymphatic absorbent vessels are especially allotted the office of removing the different parts of the system that are either superfluous or diseased, in order that the whole may be preserved in a healthy state." N.

ART. IX. *Reports of a Series of Inoculations for the Variolæ Vaccinæ, or Cow-pox; with Remarks and Observations on this Disease, considered as a Substitute for the Small-pox.* By WILLIAM WOODVILLE, M. D. Physician to the Small-pox and Inoculation Hospitals. 8vo. pp. 156. PHILLIPS, London. 1799. Price 3*s.* 6*d.*

DR. Woodville informs us that in consequence of Dr. Jenner's facts respecting the cow-pox, and the concurrent testimonies afterwards collated by Dr. Pearson, he became very anxious to try the effect of inoculating the matter of this singular disease; and as trials could be made not only with safety, but also with the prospect of advantage, he conceived it to be a duty that he owed to

* "Such is the voracity of these animals when strongly impelled by the call of hunger, that they have been known to fasten upon the back of a whale, to tear and devour a part of it. The whale immediately dives as deep in the water as its lungs will allow; and the bear has been seen to have continued and preserved its grasp until the whale was again obliged to rise upon the surface."

the

the public, in his official situation at the Inoculation Hospital, to embrace the first opportunity of carrying the plan into execution. Unfortunately, however, at the time Dr. Jenner's publication appeared, no cow-pox matter could be procured: Dr. Woodville, therefore, in conformity with the opinion of Dr. Jenner, respecting the origin of this singular disease, inoculated the nipples of cows with the matter of the grease of horses, conceiving that the distemper might be thus produced.

"Numerous experiments," he observes, "were made upon different cows with the matter of grease, taken in the various stages of that disease, but without producing the desired effect: my friend Mr. Coleman, the ingenious professor at the Veterinary College, likewise made similar trials, which proved equally unsuccessful *. Neither were inoculations with this matter, nor with several other morbid secretions in the horse, productive of any effects upon the human subject."

Having thus invalidated the opinion of Dr. Jenner, respecting the origin of this complaint, the author proceeds to inform us when and where he procured the vaccine matter.

"Towards the latter end of January last I was informed that the cow-pox had appeared among several of the milch-cows kept in Gray's Inn Lane, and upon examination of these, three or four were discovered to be affected with pustular sores upon their teats and udder. These pustules corresponded in their appearance with the representation and description of the genuine cow-pox, as given by Dr. Jenner: I should not, however, call the surrounding inflammation erysipelatous; it was evidently an indurated tumefaction of the skin. The number of cows kept at this place was at

* "Mr. Coleman caused one of his cows to be inoculated in its teats with cow-pox matter, and with that taken from a variolous pustule, without effect; but the former matter, after being regenerated by the human subject, produced the disease in the cow."

the time about two hundred, and about four fifths of them were eventually infected*. The hands of three or four persons became sore in consequence of milking the cows thus affected; and one of them (Sarah Rice) exhibited so perfect a specimen of the disease, that I could entertain no doubt of its being the true, and not the spurious cow-pox.

"The appearance of the disease upon this girl's hand and arm very much resembled the representation of it given in the first plate of Dr. Jenner's pamphlet. At first a small tumour, or circular vesication, appeared between her fingers; next day she discovered three more like the first, viz. one upon her finger, another at the wrist, and also one upon the middle of her fore-arm. The two first never became larger, and exactly resembled the vesicle upon the finger in the plate alluded to; that at the wrist was now about one third of an inch in diameter, and the other upon her arm was still larger: they were both of a circular form, not depressed at the centre, and had a simple inflammatory border. The pellicle of both these tumours, but more especially of the larger, had at this time acquired a blue colour, which was deepest about the centre. This blueness had come on during the last twenty-four hours; for I had seen the tumours the preceding day, when this coloured tinge could scarcely be perceived, and that too only in the largest; at that time also it contained a colourless fluid, but now its contents appeared brownish. The girl now perceived an uneasiness at the axilla; and I afterwards learned that this symptom was followed by a slight headach. None of the tumours were painful, and they all gradually went off without producing ulceration.

"Sarah Rice had undergone the small-pox when a child; and the only reason why she was more affected by milking the diseased cows than the other milkers were, was, that

* "Those cows which were not in milk escaped the disease."

her

her hands and arms were more red, swollen, and disposed to chap than theirs; though it does not appear that there were any abrasions of the cuticle of those parts of the skin which were infected by the cow-pox."

Dr. Woodville next enumerates the local effects produced by inoculating variolous matter, in order to compare the progress of infection in both diseases; and then states, that on Monday, January 21, 1799, he took the matter of cow-pox, in a purulent state, from the teats of a cow, with which he immediately inoculated seven persons by a single puncture in the arm of each, or rather by scratching the skin with the point of the lancet, till the instrument became tinged with blood.

Then follows the relation of two hundred cases.

The subject of the *first case* was Mary Payne, "a child two years and a half old, of a strong, robust constitution. 3d day, The inoculated part was evidently elevated, and slightly inflamed. 6th day, The local tumour extended to about one third of an inch in diameter, and was nearly of a circular form, with its edges more elevated than the centre, and with the surrounding inflammation not greater than is usual in cases of inoculated small-pox: the vesicle upon the middle of the tumour was now very large, and distended with a limpid fluid; some of which I took upon a lancet, and with it inoculated another person, John Talley. She appeared dull and drowsy; and her pulse was quicker than usual. She had no appetite for food, and had been very thirsty since yesterday. 8th day, The redness round the tumour seems retiring; and the thirst and other febrile symptoms are much abated; but she still appears listless and somewhat indisposed. 11th day, She is perfectly free from complaint; the inoculated part is scabbing, but surrounded with a hard tumefaction, of a bright red colour. She was this day inoculated with variolous matter. 15th day, She has no ailment. The variolous inoculation produced considerable

derable inflammation, which gradually disappeared after the fifth day.

"*Second Case.*—Elizabeth Payne, aged four months, in appearance weak, and somewhat emaciated. The progress of the infection on this child's arm was very much like that of her sister's just mentioned; but the vesication seemed rather more extensive, and the surrounding inflammation less. The sixth day after inoculation, her mother informed me that the child had been very unwell the preceding night with what were called inward convulsions, and had vomited two or three times. On examination, the heat of her skin, and the frequency of her pulse, indicated the presence of some degree of fever. 8th day, I learned that the febrile state had continued more or less till this morning; nor was it then wholly gone off. The inoculated part, I judged from its appearance, had not entirely ceased from disordering the constitution. 11th day, The redness of the tumour is subsiding, and its general appearance resembles the effects of inoculation with variolous matter when the eruption is completed, and the maturation proceeding favourably. The patient's mother now thinks her as well as usual. She was this day inoculated with variolous matter. 13th day, She manifests no signs of indisposition: the redness about the tumour is gone off, and the matter is forming a scab. The second inoculation produces no effect. 15th day, She is now very well; but her mother says she was seized with inward convulsions yesterday, and was extremely ill afterward for two hours: this, however, cannot be justly ascribed to inoculation, as the part in which the cow-pox matter was inserted is now covered with a dry scab, not attended with inflammation; and the variolous matter produced no redness whatever. She was this day brought to a man labouring under the casual small-pox, and kissed by him, in order more fully to try if she was secure from the infection of the small-pox. Her sister, Mary Payne, was also

subjected

subjected to the same test; but neither of them have since taken the disease.

"*Third Case.*—Thomas Buckland, a strong child, four months old.—The progress of the infection on this boy's arm was even more regular, and produced appearanees more analogous to those of the inoculated small-pox than in the ease of Mary Payne. The vesicle on the inoculated part formed on the third day, and the surrounding inflammation never became phlegmonous, nor was attended with any hardness of the integuments. 7th day, in the evening he was discovered to be feverish and restless, when two pustules, exactly resembling those of the small-pox, appeared near to the inoculated part. The following day he still continued indisposed, and the cutaneous inflammation had that peculiar irritable or angry aspect which is observable on the aecession of the eruptive symptoms in cases of inoculation with variolous matter. 10th day, The suppuration was more extended, and the efflorescence immediately encompassing it, had nearly disappeared, leaving its outer border more strongly marked than the inner; a circumstance of the most favourable import in inoculation. The two pustules upon his arm were now advanced, and several others were now visible upon different parts of his body; his ankles and feet were beset with a rash like the scarlatina. He is still feverish, and his mother reports that last night he vomited. 11th day, The soreness of his arm, and the fever, had ceased: nine distinct pustules were now diseovered upon his body and limbs, somewhat smaller than variolous pustules: from one of these I obtained an ichorous matter, and with it inoculated Sarah Price. 13th day, The febrile symptoms returned yesterday, nor is he wholly free from them to-day. Nine additional pustules have appeared: no inflammation remains at the inoculated part, and the matter it contains begins to dry. 15th day, He is free from disorder: six pustules more have appeared,

making in the whole twenty-four; some of them maturate at the apex, but they mostly die away without proceeding to suppuration. He was this day exposed to the effluvia of the casual small-pox, in the same manner as the two Paynes.

"*Eighth Case.*—William Harris, twenty-one years of age, of a tall and slender make, and of a delicate constitution, was inoculated January 24, with the matter of cow-pox, taken from the arm of Sarah Rice, who received the disease by milking the cows. 3d day, The inoculated part was evidently elevated and inflamed. 5th day, It advanced to vesication, and a sensation of itching was perceived in the part: he was this day inoculated with variolous matter. 9th day, The tumour of the first inoculation presents prominent callous edges, with but very little redness; its centre is depressed, and contains a lymphatic fluid: he perceives a tenderness in the axilla: the variolous tumour is considerably inflamed and vesicated, and itches more than the other. Next day a pain was perceived in the axilla of the arm in which the variolous matter was inserted, as well as in the other. 12th day, Redness of the cow-pox tumour is going off; but that of the variolous still spreads with an irregular margin. 14th day, Several pustules appear: the cow-pox tumour is now dry at the centre, but its surrounding edges appear of a blueish tinge, and still abound with ichorous matter. The variolous tumour is much inflamed, and beset with confluent pustules at its edges; its centre is depressed, and of a dark hue. 19th day, The cow-pox tumour has formed into a dry scab, with a finely polished surface, and of a mahogany-brown colour: the variolous tumour is in a purulent state, with an extensive inflammation at the margin: the pustules are about three hundred in number, very large, and all in a state of maturation. From this time all the effects of inoculation went off gradually: he never complained of headach, nor of any febrile symptom, during the whole progress of the disease."

James

James Crouch, the subject of the seventh, was inoculated (five days after the insertion of the cow-pox virus) with variolous matter; both tumours advanced in the usual way. This circumstance is related in consequence of a cow, kept by Professor Coleman, at the Veterinary College, having been inoculated in its teat with the matter of the cow-pox taken from the arm of James Crouch, which produced the disease in the cow, (p. 143.) A man-servant, by milking this cow, was also affected with an extensive tumour upon his thumb: this soon acquired a livid blue colour, and was attended with a considerable degree of fever for several days, and with a rash upon his ankles and feet.

With the matter produced in the nipple of this cow were inoculated the subjects of the 40th, 41st, and 42d cases.

"*Eleventh and twelfth Case.*—Thomas Fox, aged twenty-five, and John Dennis, twenty-three years of age, both strong men, and accustomed to hard labour, were inoculated on the 22d of January, with variolous matter, and on the following day with cow-pox matter, taken from the arm of Sarah Rice. In both these cases, the first inoculation was performed by two punctures at the distance of two inches from each other, and the latter by one puncture at the same distance from the two former. The local effects and appearances of the inoculation were very similar in both these men: the cow-pox tumours seemed to advance equally with those of the variolous, and bore a strong resemblance to them; the former, however, were more elevated and circumscribed: for about the ninth day the variolous tumours became angulated or ragged at the margin, which was not so conspicuous in the others, though both had small confluent pustules at their margins. Those of the cow-pox also sooner healed, and formed a smoother scab. The eruptive fever came on about the eighth day with Dennis, but not till the tenth with Fox: the former had more than three hundred pustules, and the latter about

one hundred; all of which were in every respect similar to variolous pustules.

"*Thirteenth and fourteenth Case.*—John Talley, fourteen, and Thomas Brown, fifteen years old, were, January 25th, inoculated with variolous matter in the left arm, and the following day they were both inoculated in the right arm with the matter of cow-pox, taken from the arms of Mary and Elizabeth Payne, (see Cases first and second.) The progress of both the infections on the arms of these boys was perfectly regular and equal throughout. On the 7th day all the tumours were considerably inflamed, and in a state of vesication, attended with itching. Brown also at this time complained of a pain in each axilla; but with Talley the pain was confined to the left till the next day, when both arm-pits were affected. 10th day, They both complained of headach, and of pains about the loins: these, however, were very slight, and no further indisposition ensued. On the evening of the 12th day some pustules appeared upon Brown, but upon Talley they did not appear till the 14th day: the former had in all about thirty, and the latter only six, all of which were apparently variolous. The cow-pox tumours were more elevated at the edges, and less depressed at the centre, after the 9th day, than those of the variolous; and they eventually formed a smoother and browner scab, as in the case of Fox and Dennis.

"January 30th.—William Mundy, Elizabeth George, and Sarah Butcher, were inoculated by two punctures with the matter of cow-pox, taken from the arm of Collingridge.

"*Sixteenth Case.*—Elizabeth George, a strong woman, twenty-five years old, was inoculated in the same manner, and on the day above mentioned, with cow-pox matter taken from the same person. The punctures quickly rose, but the inflammation was inconsiderable till the sixth day, when vesication and itching commenced. 9th day, Has no

pain

pain in the axilla, but complains of headach and pain in the loins. 11th day, Her pains continue; pulse quick; the central pellicle of the tumours is extending, and replete with a watery humour; the margins swollen, and red. 13th day, The same appearances continue. 15th day, The symptoms are abated: says she has no other complaint than a giddiness of the head: the inflammation at the margins of the tumours is greatly abated; the matter in the centre is beginning to dry; some pustules appear on her face. 16th day, She makes no complaint; more pustules shew themselves; the tumours appear circular, with the centre equally elevated as the edges, and exhibiting an uniform smooth surface, which is becoming hard. 18th day, More pustules have appeared; the tumours are scabbing, and the surrounding redness is almost wholly gone. 20th day, Her face is swelled; the pustules are very sore, and in a purulent state; their number is five hundred and thirty, and two in the throat are a little troublesome. 25th day, The pustules in a state of desquamation. She was now inoculated with variolous matter, which produced no effect. The scabs at the inoculated part were of that brown smooth kind peculiar to the cow-pox.

"January 31st.—Thomas Wise, aged fourteen, and Sarah Price, aged thirteen years, were inoculated with the matter of cow-pox, taken from Matthew Redding, and at the same time with variolous matter; but the effects of the latter inoculations were the following day prevented by applying the concentrated acid of vitriol to the punctures.

"*Twenty-second Case.*—Edward Turner, a strong man, twenty-four years of age, inoculated by two punctures with the matter of cow-pox taken from the arm of James Crouch (Case 10th,) Feb. 5th. 7th day, The tumours were much advanced, in a state of open vesication, and attended with itching. 12th day, They began to dry in the centre, but the margins were of a dark red colour, and studded with minute

minute vesiculæ: he now complains of pain in the axilla, stiffness of his neck, and pain in the loins. 14th day, Headach and pain in the loins continue: the inner edges of the tumours are distended with an ichorous fluid. 16th day, Complains of headach and sore throat: next day about one hundred pustules appeared, many of which were very small. 19th day, He has no complaint: the number of the pustules now amounts to about two hundred and twenty: all of them afterwards suppurated. On the 23d day he was inoculated with the variolous matter, which produced no effect.

"*Twenty-third Case.*—Hannah Morgan, a strong child, one year old, was inoculated with the matter of cow-pox taken from the arm of James Crouch, Feb. 5. 5th day, The inoculated part is much elevated and inflamed. 7th day, The tumour contains ichor, and the redness and elevation are greatly increased: yesterday she became feverish, and last night was sick, and vomited: her skin at this time is hotter than usual. 14th day, The febrile symptoms continued, and at times were very severe, till the eleventh day, since which time they have not returned: no pustules have appeared, and the tumour is now scabbing. She was afterwards inoculated with variolous matter, but it only produced a transient redness in the part.

"*Twenty-fifth Case.*—Ann Bumpus, aged twenty years, was inoculated February 6, with the matter of cow-pox, taken from the arm of Sarah Butcher. The appearances of the inoculated part in this girl's arm, corresponded in every respect with those stated in West's case. 8th day, She complained of headach. 10th day, Pain of the head and loins; shiverings. 11th day, Two or three pustules appear upon her face. 13th day, Pains continue; more pustules appear. 15th day, No complaint: the pustules were counted, and found to be three hundred and ten, resembling those of the small-pox. 17th day, Complains of sore throat.

19th

19th day, Pustules drying. 22d day, Inoculated with the matter of small-pox, but no inflammation was produced by it."—Some matter from this patient was sent to Dr. Jenner.

Frances Jewel (Case 27th,) twenty years of age, had the small-pox by inoculation when a child; she was now inoculated with the matter of the cow-pox; the part advanced into a tumour, as in other cases: she was slightly indisposed, but no eruption took place. She was afterwards inoculated with variolous and cow-pox matter, neither of which produced inflammation.

"*Twenty-eighth Case.*—Charlotte Fisk, four months old, was, on February the 13th, inoculated with the matter of cow-pox, taken from the arm of Frances Jewel. In this child the local disease proceeded very regularly. She became indisposed on the 8th day, and continued feverish for three or four days, when about forty pustules appeared; but the greatest part of these pustules did not proceed to suppuration. The mother of this child laboured under the natural small-pox, and was covered with pustules in a purulent state at the time her child was inoculated; yet the infant was suckled by her during the whole course of the disease, and was frequently seen besmeared with variolous pus. Whence it would appear, that the vaccine infection not only prevents, but actually supersedes the casual small-pox.

"*Fortieth Case.*—Martha Streeton, aged twenty-two years, was, on the 18th of February, inoculated with the matter above mentioned. The inoculated part tumefied in the usual manner, and on the 9th day she complained of headach, and afterwards of a pain in the axilla. The headach and pain in the loins continued, but not with severity, for five or six days. Pustules began to appear on the 12th, and the eruption was completed on the 16th day, when the number was about three hundred. During the maturation of the pustules, which in no respect differed

from those of the small-pox, she complained of her throat being sore. On the 19th day this patient was perfectly well. She was afterwards inoculated for the small-pox without effect.

"*Forty-sixth Case.*—John Turner's arm was inflamed very extensively, and he became feverish on the 8th day. The following day many pustules appeared; and on the 11th day he was almost covered with pustules, having about *a thousand.* These, however, were perfectly distinct, and they all maturated favourably, so that about the 17th day he was completely well.

"*Sixty-second Case.*—Thomas Rood was feverish from the 7th till the 10th day, and at the commencement of the fever he had two or three short convulsive paroxysms; but no eruption took place.

"*Eighty-seventh Case.*—Elizabeth Platford was taken ill on the 9th day, when she complained of pain in the head and loins, with chilliness, &c.: the inoculated part at this time was considerably inflamed: the tumour was circular, but flat, and not surrounded by any efflorescence. 11th day, The pains and shiverings continue: pulse very frequent and weak: tongue white. 13th day, The symptoms still continue: she also complains of pain across her shoulders: some pustules appear. 15th day, She complains of pain in the loins, and of giddiness: the number of the pustules is much increased. 17th day, The pains continue: she is very weak and faint; her eyes and throat are inflamed and painful: the edges of the tumour are beset with confluent pustules; the pustules upon her face are about two or three hundred, and approach to confluency. 19th day, Her face is considerably swelled, and the pustules are now maturating rapidly. She makes no complaint, but of the soreness occasioned by the eruption. 21st day, Swelling of the face much subsided: the pustules in a state of desiccation. 23d day, She continues recovering. 26th day,

day, She complains of a sore throat, and a cough is troublesome to her. 28th day, The sore throat is almost gone, but the cough continues: pulse 100. 30th day, The cough is still violent. 32d day, The cough is abated, and her appetite improves: from this time she gradually recovered.

" Both the above patients were afterwards inoculated with variolous matter, which produced no effect.

" *Eighty-ninth Case.*—Mary Webb began to complain on the 7th day, and continued feverish for a week. On the 10th day a redness was diffused over the greatest part of her arm, between the elbow and shoulder, and did not wholly disappear till the 14th day. She had about twelve pustules."

In order that the progressive descent of the cow-pox infection from patient to patient, as well as the magnitude of the disease which was excited by the inoculation, may be comprehended at one view, the author has subjoined a useful tabular statement, occupying twenty-two pages. In the first and second divisions, opposite to the names, the age in years or months is recorded; in the third, the number of days during which the febrile symptoms continued; and in the last, the number of pustules produced.

Dr. Woodville informs us, that the unexpected appearance of a pustular eruption at first led him to apprehend that the lancet which was employed in his inoculation might have had some particles of variolous matter adhering to it, but upon inquiry he found that it was then used for the first time after grinding. Respecting the inoculation of patients with variolous matter on the fifth day after that taken from the cow had been inserted, he says, " This led some medical gentlemen to suppose that the matter locally formed in the arm from the first inoculation, might be variolated by the progress of the second inoculation in the other arm, and that consequently the matter generated in the cow-pox tumour with which others were inoculated, would produce a hybrid

disease, and not the genuine cow-pox. But as the matter employed in the cow-pox inoculations was always taken before the constitution could be affected by the variolous matter, and during the time that both inoculations were merely local diseases, I apprehend its effects would be the same as if the variolous inoculation had not taken place. Nay, had this not been the case, but had several patients been inoculated with matter taken from the cow-pox tumour on the arm of Jane Collingridge, after both the inoculations were supposed to have affected the constitution for several days, neither facts nor analogy lead us to believe that the matter thus obtained would produce any other disease than that of its own species, or that its specific morbid quality would be changed by entering into combination with the virus of the small-pox. The general character of the tumour formed by the inoculation of the small-pox is very different from that of the cow-pox; and though on the same day a person be inoculated in one arm with the matter of the cow-pox, and in the other with that of the small-pox, yet both tumours preserve their respective characteristic appearances throughout the whole course of the disease. This is certainly a strong proof that the two diseases, in respect to their local action, continue separate and distinct.

"At the request of Dr. Jenner," says the author, "I transmitted to him, in Gloucestershire, some of the cow-pox matter from the patients then under my care, which he used for the purpose of inoculation: after a trial of it, he informed me, that 'the rise, progress, and termination of 'the pustule, created by this virus on the arm,' was exactly 'that of the true uncontaminated cow-pox.' The matter sent was taken from the arm of Ann Bumpus (Case 25th,) who had 310 pustules, all of which suppurated; yet, with the matter of this stock, Dr. Jenner inoculated twenty, and another gentleman, in the same county, 140 persons, without producing any pustules which maturated."

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The author next proceeds to inquire how far the effects of the cow-pox upon the human subject, seem to differ from, or correspond with, those of the small-pox when communicated by inoculation. "The cow-pox," he observes, "in every case with which we are acquainted, has been introduced into the human constitution through the medium of external local inflammation, and is therefore to be considered as an inoculated disease: the virus of it seems also to affect a similar mode of action, and to be governed by the same laws as that of the small-pox. Thus if a person be alternately inoculated with variolous matter, and with that of the cow-pox every day till fever is excited, all the inoculations make a progress; and, as soon as the whole system becomes disordered, they appear to be all equally advanced in maturation. However, the local tumour excited from the inoculation of the cow-pox is commonly of a different appearance from that which is the consequence of inoculation with variolous matter; for if the inoculation be performed by a simple puncture, the consequent tumour, in the proportion of three times out of four, or more, assumes a form completely circular, and it continues circumscribed, with its edges elevated, and well defined, and its surface flat throughout every stage of the disease; while that which is produced from variolous matter, either preserves a pustular form, or spreads along the skin, and becomes angulated and irregular, or disfigured by numerous vesiculæ.

"Another distinction, still more general and decisive, is to be drawn from the contents of the cow-pox tumour; for the fluid it forms, unless from some accidental circumstance, very rarely becomes puriform, and the scab which succeeds is of a harder texture, exhibits a smoother surface, and differs in its colour from that which is formed by the concretion of pus. All the appearances here described, however, do not constantly attend the disease, but are sometimes so much changed, they can in no respect be distin-

guished from those which arise from the inoculation of the small-pox. When the disease thus deviates from its usual appearance at the inoculated part, its effects upon the constitution have commonly, though not always, been felt more severely than where the tumour was distinctly characterised."

The general effects upon the constitution are next compared, in order, if possible, to ascertain, from the facts already adduced, whether or not the inoculation of the vaccine disease produces a milder distemper, and of less dangerous consequences to the patient, than that of the small-pox. "*The number of cases of cow-pox, inoculated under my direction,*" says Dr. Woodville, "*have amounted to about* SIX HUNDRED."

"*An infant at the breast died on the eleventh day after the cow-pox matter had been inserted in its arm.* In this solitary fatal case the local tumour was very inconsiderable, and the eruptive symptoms took place on the seventh day; when the child was attacked with fits of the spasmodic kind, which recurred at short intervals with increased violence, and carried it off at the time above mentioned, after an eruption of eighty or one hundred pustules.

"It appears, therefore, that out of about 500 cases of the inoculated cow-pox one proved fatal; and the table shews, that in some others the disease, from the number of the pustules, was of formidable severity; while, on the other hand, a very large proportion of the patients were scarcely disordered from the inoculation, and had no pustules.

"It is evident, however, that the matter of the vaccine disease has generally produced much fewer pustules, and less indisposition than that of the small-pox; for it appears from the preceding statement, that about two-fifths of all the persons inoculated for the variolæ vaccinæ, had no pustules, and that in not more than a fourth part of them was

there

there experienced any perceptible disorder of the constitution. But it must be acknowledged, that in several instances, the cow-pox has proved a very severe disease. In three or four cases, out of five hundred, the patient has been in considerable danger; and one child, as I have already observed, actually died under the effects of the disease. Now, if it be admitted, that at an average, one of five hundred will die of the inoculated cow-pox, I confess I should not be disposed to introduce this disease into the Inoculation Hospital, because, out of the last 5000 cases of variolous inoculation, the number of deaths has not exceeded the proportion of one in 600. But I am inclined to think, that if the matter of the cow-pox, used for the purpose of inoculation, were only taken from those in whom the disease appeared in a very mild form, the result would be more favourable than in the statement here given. For though it has occasionally happened, that the matter taken from the arm of a patient, in whom the disorder neither produced fever nor eruption, has in others produced both; yet still it has much more commonly had the effect of exciting a milder disease than the matter of the pustules, or than that which was obtained from a patient who had the disease in a severe manner, as may be seen by an examination of the table.

"Thus we find, that out of sixty-two persons, who were inoculated with the pustule matter, fifty-seven had an eruption; and those who received the disease from any of these fifty-seven patients, appear also to have had pustules in nearly the same proportion. I may also remark, that the disease, before noticed as proving fatal to a patient, was excited from matter of this description, and taken from Talbot. Whence it appears, that the cow-pox, from certain circumstances, is not only liable to lose the characters which distinguish it from the small-pox, but also to continue to propagate itself under this new and casual modification.

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The vaccine variolæ, and the human variolæ, ought therefore to be considered as only varieties of the same disease, rather than as distinct species."

Although the cow-pox has been supposed not to be a contagious disease, the author informs us that "where it produces numerous pustules upon the body, the exhalations they send forth are capable of infecting others in the same manner as the small-pox." Two instances of casual infection in this way have lately fallen under his observation: in one the disease was severe, and the eruption confluent; in the other the disease was mild, and the pustules few.

He thinks, however, the cases which are on record, of persons having the small-pox after having been affected with the cow-pox, "have been very defective, in not affording sufficient proof that the affection, supposed to be the cow-pox, was in reality that disease;" and observes, that *of all the patients whom he inoculated with variolous matter, after they had paſſed through the cow-pox, amounting to upwards of* FOUR HUNDRED, *none were affected with the small-pox;* and it may be remarked, that nearly a fourth part of this number was so slightly affected with the cow-pox, that it neither produced any perceptible indisposition nor pustules.

The author finishes this very interesting and unprejudiced account, by informing us, in consequence of its having been said, that the cow-pox tumour has frequently produced erysipelatous inflammation, and phagedenic ulceration, that the inoculated part has not ulcerated in any of the cases which have been under his care; nor has he observed inflammation to occasion any inconvenience, except in one instance, where it was soon subdued by the application of aqua lithargyri acetati. It should seem then, says he, "that the advantages to be derived from substituting the cow-pox for the small-pox, must be directly in proportion to the greater mildness of the former, than the latter disease."

*** Among our MEDICAL CORRESPONDENCE for the present

sent month, will be found an account of Dr. Woodville's farther experience on this subject, since the publication of his "*Reports.*" F. C.

ART. X. *Contributions* * *to Physical and Medical Knowledge, principally from the West of England.* Collected by THOMAS BEDDOES, M. D. Octavo. pp. 539. LONGMAN, London. 1799. Price 8*s*.

THE Contributions which Dr. Beddoes has received from his friends, and which have enabled him to present us with the present volume, are of various interest and merit. Before we proceed to lay before our readers an analysis of these, together with our opinion of them, we must, in justice to the editor, take notice of his introduction, in which many new thoughts, concerning the best mode of extending medical experience, will be found.

Dr. B.'s leading principle is this, "*to provide for the most perfect possible ascertainment and entire publicity of all the phænomena occurring in charitable establishments for the relief of the indigent sick.*" In order to do this, "the medical functionaries of hospitals should be required at fixed, perhaps monthly, periods, to furnish an account of their respective departments, particularly noticing such phænomena as should appear to them instructive or singular†. To these meetings all

* We have been requested by Dr. Beddoes to notice an error which has inadvertently appeared in some copies of his CONTRIBUTIONS: page 381, line 9, should read *three* grains, instead of *eight*.

† "Since my MS. has been in the printer's hands, I have learned, that in the case of cancer some surgeons at Manchester acknowledge the propriety of making the facts occurring in hospitals notorious. In a memorial addressed to the trustees of the M. hospital, they observe, 'that if a journal were kept in the manner they propose, 'and to be open to general inspection, much good would arise to the objects of these institutions, and general benefit to the community.

'We

all the practitioners of the place and neighbourhood, together with subscribers to the charity, should have free access. When the statement contained any thing uncommonly interesting, a commissioner, or committee of verification, should be appointed to examine the circumstances. In cases not admitting of delay, the attending physician or surgeon should call in one or more commissioners during the intervals of the sittings. It is of course that the facts thus acquired should be subject to the remarks of the parties present, and that the more select should be given to the public in some commodious form."

The second proposal of Dr. B. for the accomplishment of his plan is, "*that the physicians and surgeons of hospitals be changed, or partly changed, every year or every second year: that, if the average number of reputable physicians and surgeons residing in or near a place be sufficient for two changes, those who go out first be not re-elected till at least two periods shall have*

'We have therefore agreed to keep an exact account of each case of 'cancer which shall come under our care, in which shall be recorded 'a faithful history of the disease, &c. &c. &c.' The proposal was adopted. (*Simmons on the Cæsarean Operation*, 1799. *Vernor and Hood.* pp. 74—5.) It is, I presume, impossible for the human imagination to supply any specious reason for the above limitation of the principle. As medicine fails in so many cases besides cancer, there is just the same reason for 'recording a faithful history of the disease, 'with its attendant circumstances; the effects of medicines; and of 'operations when necessary; together with all the collateral helps to 'be gained by an inquiry into constitutional habits and diseases.' There is also in other instances just the same reason for giving publicity to the information which all this care shall have accumulated, in order that as many minds as possible may be set at work to detect the means of ease and health. In the part of the above quotation printed in italics, I am aware that *general* may mean *confined to the hospital surgeons.* When the rules of hospitals are framed according to the system most conducive to the good of the patients they receive, and of the benefactors who uphold them, the word will be employed in its usual unlimited signification.'

elapsed;

elapsed; and that the exclusion be prolonged according to the probability of a proper succession."

In order to establish this proposition, Dr. B. endeavours to prove that it is practicable; that it promises great advantages; and that all elections, as they are now made, for an indefinite term, are acts of extreme injustice towards the majority of the profession, and comparatively prejudicial to the public. That it is practicable he proves by a letter from Dr. Gleghorn of Glasgow, stating the manner in which the physicians of the hospital of that city are elected, and the mode of their attendance. We are informed by Dr. G. that two physicians are elected to this hospital annually. "Hitherto they have attended three months alternately; next winter they may probably attend both together for the convenience of the clinical students, who have only an hour for the infirmary." In order to have shewn that the election at this hospital was apposite to Dr. Beddoes's plan, it would have been necessary to have mentioned, that the two physicians who are annually elected are not always the same gentlemen.

We are very far from disapproving the general principles of this plan; on the contrary, we are of opinion, that, were it modified and made applicable, a much greater stimulus to exertion and emulation would be produced among physicians and surgeons to hospitals, and that a great deal of useful information might be obtained in a very few years in this way. But there is one great obstacle to the realizing such a scheme, namely, that it is incompatible with the usages of the present times, and it is evidently contrary to the personal interest of those who take the lead in regulating such matters.

We proceed now to the first essays in this volume, which are entitled, *Essays on Heat, Light, and the Combinations of Light, with a new Theory of Respiration. On the Generation*

of Oxygen Gas, and the Causes of the Colours of Organic Beings. By Humphry Davy.

These essays, which lay claim to ingenuity, and shew a mind formed for chemical speculation, are the offspring of a young man, who, as Dr. Beddoes informs us in a subsequent paper, was, at the time he wrote them, "pupil to a surgeon-apothecary in the most remote town of Cornwall, with little access to philosophical books, and none at all to philosophical men." When we consider these things, and reflect at the same time on the extent of his chemical knowledge, the number, the variety, and the nicety of his experiments, the arrangement which he has given them, and the application of their results to various parts of physiology, we are not only inspired with the emotions of surprise, but those of respect for his abilities, and we congratulate Dr. Beddoes in having procured him as his assistant. But while we are willing to admit every fair claim of this young chemist to ingenuity and industry, we should be wanting to the public if we allowed them to have an undue influence on our opinion of his essays. They are subject in several points to animadversion and to doubt; although, before we criticise his logic or question his authority, we shall give a brief exposition of his doctrine.

He denies, with Bacon, Des Cartes, Macquer, and many other chemical philosophers, the materiality of heat; but his denial of this is not founded on what these authors have written, but on various experiments of his own contriving and executing. Three of these we shall insert.

"*Experiment* 1.—A small gun-lock was procured, armed with an excellent flint. This lock was elevated by means of two iron springs on the stand of the receiver of an air-pump. A slight iron wire was affixed to the trigger, brought through a hole made in the centre of the stand, and cemented into the hole with wax, so as to exclude entirely

tirely atmospheric air from the receiver. The receiver was exhausted, and the lock snapped; but no light was produced. The receiver was filled with carbonic acid, and the lock again snapped, with the same result; no light was produced. Small particles were separated from the steel, which on microscopic examination evidently appeared to have undergone fusion.

"*Experiment* 2.—I procured two parallelopipedons of ice*, of the temperature of 29°, six inches long, two wide, and two-thirds of an inch thick; they were fastened by wires to two bars of iron. By a peculiar mechanism their surfaces were placed in contact, and kept in a continued and violent friction for some minutes. They were almost entirely converted into water, which water was collected, and its temperature ascertained to be 35°, after remaining in an atmosphere of a lower temperature for some minutes. The fusion took place only at the plane of contact of the two pieces of ice, and no bodies were in friction but ice. From this experiment it is evident that ice by friction is converted into water, and according to the supposition its capacity is diminished; but it is a well-known fact, that the capacity of water for heat is much greater than that of ice, and ice must have an absolute quantity of heat added to it before it can be converted into water. Friction consequently does not diminish the capacity of bodies for heat.

"*Experiment* 3.—I procured a piece of clock-work, so constructed as to be set to work in the exhausted receiver; one of the external wheels of this machine came in contact with a thin metallic plate. A considerable degree of sensible heat was produced by friction between the wheel and plate when the machine worked uninsulated from bodies

* "The result of the experiment is the same, if wax, tallow, rosin, or any substance fusible at a low temperature be used: even iron may be fused by collison, as is evident from the first experiment."

capable of communicating heat. I next procured a small piece of ice*; round the superior edge of this a small canal was made, and filled with water. The machine was placed on the ice, but not in contact with the water. Thus disposed, the whole was placed under the receiver (which had been previously filled with carbonic acid,) a quantity of potash (*i. e.* caustic vegetable alkali,) being at the same time introduced.

"The receiver was now exhausted. From the exhaustion, and from the attraction of the carbonic acid gas by the potash, a vacuum nearly perfect, was, I believe made.

"The machine was now set to work. The wax rapidly melting proved the increase of temperature.

"Caloric then was collected by friction; which caloric, on the supposition, was communicated by the bodies in contact with the machine. In this experiment, ice was the only body in contact with the machine. Had this ice given out caloric, the water on the top of it must have been frozen. The water on the top of it was not frozen, consequently the ice did not give out caloric. The caloric could not come from the bodies in contact with the ice; for it must have passed through the ice to penetrate the machine, and an addition of caloric to the ice would have converted it into water."

"Heat, when produced by friction, cannot be collected from the bodies in contact; and it was proved by the second experiment, that the increase of temperature consequent on

* "The temperature of the ice and of surrounding atmosphere at the commencement of the experiment was 32°, that of the machine was likewise 32°. At the end of the experiment the temperature of the coldest part of the machine was near 33°, that of the ice and surrounding atmosphere the same as at the commencement of the experiment; so that the heat produced by the friction of the different parts of the machine was sufficient to raise the temperature of near half a pound of metal at least one degree, and to convert eighteen grains of wax (the quantity employed) into a fluid."

friction

friction cannot arise from diminution of capacity, or from oxydation. But if it be considered as matter, it must be produced in one of these modes. Since (as is demonstrated by these experiments,) it is produced in neither of these modes, it cannot be considered as matter. It has then been experimentally demonstrated, that caloric, or matter of heat, does not exist."

The author's opinion and definition of heat we also give in his own words:

"Since bodies become expanded by friction, it is evident, that their corpuscles must move or separate from each other. Now a motion or vibration of the corpuscles of bodies must be necessarily generated by friction and percussion. Therefore we may reasonably conclude, *that this motion or vibration is heat, or the repulsive power.*

"Heat then, or that power which prevents the actual contact of the corpuscles of bodies, and which is the cause of our peculiar sensations of heat and cold, may be defined a peculiar motion, probably a vibration, of the corpuscles of bodies, tending to separate them. It may with propriety be called the repulsive motion*."

To those who are acquainted with the Lavoiserian doc-

* "Heat, in common language, signifies that sensation which accompanies an increase of repulsive motion in any part of our system. It should not be used therefore for the repulsive motion, or cause of that sensation.

"The caloric of the French nomenclators is equally exceptionable; for having been generally used to express the imaginary fluid, or matter of heat, it is now associated with, and generally suggests that idea, and would thus, if used to express the repulsive motion, or cause of heat, become a source of error. Words expressing compound ideas, should, when formed at will, express as near as possible the component parts of these ideas, when they are known. The word repulsive motion is, I believe, liable to no exception; I shall therefore use it to express the separating power of the corpuscles of bodies, and the cause of our sensation of heat."

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trines of chemistry, it must be obvious that these conclusions of Mr. Davy's stand in opposition to the French theory of gaseous, or aeriform fluids. According to the French system, all airs are indebted to the supposed substance, caloric for their peculiar fluidity; according to Mr. Davy, they owe it not to any substance whatever, but solely to their particles being in a certain degree of repulsive motion. All the various stages which exist between a very solid hard substance and the same substance in a state of air or vapour, depend not on its having absorbed a something, which the French call caloric, and old writers call heat, fire, or matter of heat, but merely on the differences of the action of attraction on the one hand, and this peculiar repulsive power on the other. When the attraction of the particles of a body for each other predominates over the repulsive motion, solidity is the consequence; when the sum of the attractions of all the corpuscles is nearly equal to that of their repulsive motion, fluidity is produced; and when the repulsive motion predominates over the attraction, then the body exists in the state of gazity or elastic fluidity. Mr. Davy adds, that light exists in a state which is different from any of these three; that in light "the repulsive motion predominates to such an extent over the attraction, that the corpuscles indefinitely separate with the greatest velocity, and appear to be very little acted on by attraction or gravitation." This state of the matter of light he calls *repulsive projection.*

Having explained these terms, the author proceeds to shew how his doctrine is to be applied as an explanation of the various modes in which heat is communicated to bodies. There are three ways, he says, in which the repulsive motion of bodies may be increased:

"First, By the transmutation of mechanical into repulsive motion, that is, by friction or percussion. In this case, the mechanical motion lost by the masses of matter

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in friction is the repulsive motion gained by their corpuscles.

"Secondly, By the motion of chemical combinations, or decomposition.

"Thirdly, From the communicated repulsive motion of bodies in apparent contact."

As Mr. D. already assumes that his doctrine is proved, he does not enter into any proof that the repulsive motion of one body is capable of communicating a portion of its motion to another, but merely runs through a string of assertions as an explanation of what he means. The following passage explains the manner in which, according to him, a mean temperature is produced, when two bodies, which are of different temperatures, are brought into contact:

"When two similar and equal bodies are brought in contact, they acquire a common temperature by communication of their repulsive motion: and the common temperature is an arithmetical mean between the two original temperatures. When two unequal and similar bodies are brought in contact, if their temperatures are different, they will acquire a common temperature by communication, and the communicated repulsive motion will be consequently divided between them in proportion to their quantities of matter. If two bodies of different capabilities of temperature, and of different temperatures, be brought in contact, they will acquire a common temperature, and the communicated repulsive motion will be found divided between them, in proportion to their quantities of matter, and their capabilities."

Light, according to Mr. D. is a body in a peculiar state of existence; it combines with many substances, and is repelled by others. The seven classes of light, commonly called the primitive colours, are accounted for by supposing that the particles of light, in taking the state of repulsive projection, originally received a different repulsive motion. This body (light,) unites with some bodies very loosely,

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with others very intimately. This is the foundation of a new nomenclature which the author has adopted. He conceives the word gas, as used by the French, to be an improper appellation, inasmuch as it is associated with their favourite hypothesis, that all gaseous fluids owe their peculiar fluidity to *caloric*; but as there is no such thing as caloric, according to our author, he rejects this term: and, not considering the temperature as at all affecting the composition of substances, he retains their simple names; thus in using the words gold, mercury, hydrogen, he means solid gold, fluid mercury, and gaseous hydrogen, p. 37. Oxygen gas Mr. D. calls phosoxygen, from φως light, οξυς acid, and γενετως generator; for he endeavours to prove, what the French chemists have assumed, that oxygen gas contains light.—The experiments by which Mr. D. endeavours to prove that phosoxygen is made up of oxygen and light, do not appear to us either new or conclusive. They simply shew, that light is extricated during the oxygenation of bodies: but if the opinions of Richter and Leonhardi be just, the light in these cases issues from the combustible, or oxydated substance, during its oxydation, and not from the oxygen gas, as the French believe, nor from phosoxygen, as Mr. Davy imagines; and we would be glad to know which of his experiments is capable of settling this point. That it may be settled by experiment, we acknowledge; but these experiments have not yet been either invented or executed, to the best of our knowledge. Lest it should be supposed that we act unfairly towards Mr. D. in drawing such a conclusion from his experiments, we will insert them.

"*Experiment* 5.—The repulsive motion of carbon in contact with phosoxygen (oxygen gas) was increased by a burning-glass, till it became luminous; the carbon was rapidly diminished, with the liberation of a great quantity of light; the temperature of the glass globe containing the phosoxygen (oxygen gas) was very much increased, and a very

small diminution of weight was perceived. The phosoxygen (oxygen gas) and carbon were almost entirely consumed, and a quantity of carbonic acid was formed, apparently nearly equal to the carbon and phosoxygen.

"*Experiment* 6.—The temperature of phosphorus in contact with phosoxygen was raised by a burning-glass; it immediately became luminous. An immense quantity of light was liberated, and the temperature of the surrounding bodies very much increased. A deficiency of weight was observed, a deficiency more considerable than I have found in any other combustible process; and phosphoric acid, nearly equal to the phosoxygen and phosphorus, was formed.

"*Experiment* 7.—Sulphur was heated in phosoxygen. It rapidly diminished with the liberation of a great quantity of light, and great increase of temperature in the surrounding bodies. After combustion, a small deficiency of weight was found; and sulphuric acid, nearly equal to the sulphur and phosoxygen employed, was formed.

"*Experiment* 8.—The temperature of hydrogen in contact with phosoxygen was raised. The gases were diminished with great liberation of light, and great increase of temperature; and water nearly equal to them was formed.

"*Experiment* 9.—Zinc was heated in contact with phosoxygen; it became luminous, and was consumed with a white brilliant flame. The substance remaining after combustion was white oxyd of zinc.

"*Experiment* 10.—A small gun-lock, armed with an excellent flint, was snapped in a vessel filled with phosoxygen. The sparks of light arising from the particles of steel separated by collision, were the most brilliant that can be imagined; and these particles, examined by a magnifier, were found converted into black oxyd of iron."

From the great quantities of light extricated in many combustive processes, the author concludes that phosoxygen is totally decomposed; as, for instance, in the formation

of the phosphoric, sulphuric, and carbonic acids, by burning; but there are others, he imagines, in which a certain portion of the light of phosoxygen is liberated, and the other portion, together with the oxygen, unites with the attracting base.

A table is subjoined by the author, that shews at one view a number of those substances which, by the followers of Lavoisier's doctrines, have been considered as compounds of various bases with oxygen only; but which, according to Mr. Davy, are constituted not only of their peculiar attracting basis, but also of phosoxygen, or light and oxygen.

At p. 111, Mr. D. mentions a very curious and new fact, the relation of which both surprised and pleased us. In speaking of the combinations of the oxygenated muriatic acid, which he calls the *muriatic phosacid*, he informs us of the following particulars concerning its union with and disengagement from pure strontian earth:

"I effected this combination by passing muriatic phosacid gas through a saturated solution of strontian lime, heated above 200°. The strontian lime was obtained by my friend Mr. Clayfield, from the sulphate of strontian discovered by him near Bristol. We first attempted the combination by passing muriatic phosacid gas through strontian lime water at the temperature of 30°—40°; but without success. Mr. Clayfield proposed to try the effect of cold. The temperature of the solution was lowered by snow and salt to 10°, and the gas passed through; but no considerable combination was effected. We then dissolved as much earth as possible in boiling water, and passed the gas through the saturated solution. The combination immediately took place. The solution of phosmuriate of strontian was of a dusky orange colour. We had some difficulty in obtaining the crystals of this salt, from its extreme solubility. By great evaporation and cooling, it gave fine needle-formed crystals. These crystals slightly detonated with

with phosphorus and charcoal. Alcohol holding them in solution, burnt with a rose-coloured flame. When sulphuric acid was poured into a solution of this salt in water, with a design to prove its composition by synthesis, a beautiful and unexpected phenomenon took place. The room was accidentally darkened at the moment that this experiment was made, so that we were enabled to perceive a vivid luminous appearance whilst muriatic phosacid gas was liberated with great increase of temperature. We repeated the experiment two or three times with the same result, except that the light was differently coloured. When sulphuric acid of the specific gravity of 2,25 was poured on the dry salt, no light was liberated, and the decomposition went on very slowly; on the addition of water, the effects before described again took place. This experiment, independent of its beauty, is extremely pleasing, as affording an instance of a true combustion, that is, the production of light and heat, by the mixture of two incombustible bodies."

Having treated of the chemical union of phosoxygen with various substances, the author proceeds to shew the part it acts in the functions of animated bodies. His doctrine of respiration is simply this:

"Respiration, then, is a chemical process, the combination of phosoxygen with the venous blood in the lungs, and the liberation of carbonic acid and aqueous gas from it. From the combination and decomposition arises an increase of repulsive motion, which combined with that produced by the other chemical processes taking place in the system, and that generated by the reciprocal action of the solids and fluids, is the cause of animal heat; a heat which the other systems have supposed to arise chiefly from the decomposition of oxygen gas (oxygen and caloric)."

Every physiologist admits that the circulation of the blood is necessary to the action of the brain and nerves; but when the author attributes the support of these to phosoxygen, and

believes that the nervous fluid is light secreted by the arteries, we think he ventures too far into the field of conjecture.

Muscular action, he thinks, depends on the union of the oxygen of the animal fibre with the hydrogen and carbon, during which there is a liberation of azote and electric fluid, that he conceives to be condensed light.

Having laid down these principles, the author erects, in a very summary manner, a complete system of materialism, or at least something very nearly approaching to it; but, let the reader judge for himself.

"Life," he says, "may be considered as a perpetual series of peculiar corpuscular changes; and the living body as the Being in which these changes take place. Perceptions, ideas, pleasures, and pains, are the effects of these changes. They are consequently found to be continually varying. The laws of mind then, probably, are not different from the laws of corpuscular motion. Every change in our sensations must be accompanied with some correspondent change in the organic matter of the body. These changes an extensive and philosophic chemistry may enable us to estimate.

"Thus essential then is LIGHT to perceptive existence. All organic sensitive beings with which we are acquainted appear totally unable to exist without phosoxygen.

"We may consider the sun, and the fixed stars, the suns of other worlds, as immense reservoirs of light destined by the great ORGANISER to diffuse over the universe organisation and animation. And thus will the laws of gravitation, as well as the chemical laws, be considered as subservient to one grand end, PERCEPTION. Reasoning thus, it will not appear impossible that one law alone may govern and act upon matter: an energy of mutation, impressed by the will of the Deity, a law which might be called the law of animation, tending to produce the greatest possible sum of perception, the greatest possible sum of happiness."

This

This concludes the author's first essay: but, before we proceed to the analysis of the second, we will indulge ourselves in offering a few remarks on his doctrine.

We suppose the author ready to admit that the hypothesis of the immateriality of heat is an old one, in favour of which many celebrated authors have written. No claim to novelty can be derived from such a source: Mr. Davy's merit, therefore, must rest on the ingenuity he discovers in pointing out, more correctly than has yet been done, the specific quality of matter which causes the phenomena of heat, and by making a number of decisive experiments to establish his doctrine.

The experiments upon which his opposition to the materiality of heat is built, are the 2d and 3d, which we have already extracted. These experiments are very far from being conclusive. Ice which is converted into water by friction, in a receiver including air, and in an unknown temperature, will only lead those who did not see the experiment performed, and who adhere to Dr. Black's opinion concerning heat, to suppose that friction, by disengaging the particles of ice from each other, and consequently increasing their surface, will enable them to attract heat more rapidly than if they had been allowed to remain in a solid mass.

The 3d experiment is very ingeniously contrived: a piece of clock-work, capable of producing a great degree of sensible heat by friction, was set to work in an exhausted receiver of the temperature of 32°, and placed on ice, on the border of which there was a groove containing water. Heat was produced sufficient to raise half a pound of metal one degree, and to liquefy eighteen grains of wax; the water in the groove of the ice remained in a fluid state. Mr. D. therefore concludes, that if the heat had been collected by the parts in friction from the surrounding bodies, the water must have been frozen. We confess we are unable to see the justice of this conclusion. The parts in friction had a communication

munication with the whole house, nay, with the whole earth; the ice only forming one link of the chain. If the ice was kept at the same temperature, it might afford a passage to any quantity of the matter of heat, without betraying marks of it, just as the chain which forms a communication between the cushion of an electrical machine and the earth, communicates an endless quantity of electricity, without betraying any sign of its doing so. Would any one assert that electricity was not communicated from the earth in such a case, because, when the electrometer is connected with the chain which hangs from the cushion, no signs of an increase or diminution of its natural quantity of electricity are to be discovered? Other experiments of a nicer kind, and of a more decisive nature than those either of Count Rumford or Mr. Davy, are still wanting to settle the materiality or immateriality of heat.

As to the author's opinion concerning life, it is exposed to the same difficulty as all others which make life a mechanical property of matter; that is, it involves us in a circle, as it were, which renders the subject much more embarrassing and unintelligible than it was before. What is life? It is, says Mr. D. "a perpetual series of peculiar corpuscular changes," p. 144. But whence does the living body derive its peculiar phenomena, which distinguish it from dead bodies? From life, is the answer, or from a living principle, as some call it. Life, then, or the living principle, gives to *matter* the qualities and phenomena of living bodies; and yet life, or the living principle, is nothing else but a common mechanical property of matter!!

Mr. D. himself seems to feel that, after having made the assertion that life is nothing else than a series of corpuscular changes, there is another question that may be demanded; which is, whence is this series of peculiar corpuscular changes derived, in which life consists? It is, as Mr. Davy informs us, "from an energy of mutation impressed

impressed by the will of the Deity." Instead of this expression, *energy of mutation*, which does not convey any meaning, let our author and our readers substitute the *living principle*, and he will revert to the old school. H. L.

(To be continued next month.)

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *Dr.* WOODVILLE's *Note on the Cow-pox: addressed to the Society of Physicians and Surgeons.*

I AVAIL myself of the obliging offer made to me by the *Society for conducting the* LONDON MEDICAL REVIEW, to inform them, that since the publication of my "Reports of Inoculations for the Cow-pox," upwards of three hundred cases have been under my care; and out of this number only thirty-nine had pustules that suppurated: viz. out of the first hundred, nineteen had pustules; out of the second, thirteen; and out of the last hundred and ten, only seven had pustules.

Thus it appears that the disease has become considerably milder; which I am inclined to attribute to a greater caution used in the choice of the matter, with which the infection was communicated; for lately, that which has been employed for this purpose, has been taken only from those patients in whom the cow-pox proved very mild and well characterised.

Ely Place, June 13, 1799. W. WOODVILLE.

Art. 2. *Case of a Retention of Urine, attended with some uncommon Circumstances.* Communicated by THOMAS CHEVALIER, M. A. Member of the Corporation of Surgeons in London, &c.

JUNE 29, 1794, I was desired to visit John Robbe, a man aged seventy-two, who laboured under a retention of urine.

He

He complained that he had only been able to void a few drops during the last twenty-four hours, and was then in considerable pain. He informed me, that about eight or nine years before, he had an abscess on the under part of the penis, brought on by a bruise from a fall. Since that time, the passage of the urine had been considerably obstructed. He was sometimes obliged to wait near ten minutes before it would flow beyond the part where this obstruction was situated; in the mean time, the perinæum always swelled considerably, till at length the impediment being in some measure overcome, the urine came away in a small stream. On examining his penis, I found it so contracted, that I did not imagine it would be practicable to pass a catheter, especially as the urethra was otherwise so much obstructed. However, I made myself easy on that head; for, on laying my hand above the pubes, the bladder did not appear to contain much urine; certainly not enough to account for his pain. His pulse was rather too frequent, and his skin hot. I therefore bled him, ordered him a draught with Ol. ricini and Tinct. opii, every four hours; and directed fomentations to be applied to the perinæum, and a glyster to be given if the pain should continue.

The next day, though he had not made water, he said he was easier, but desired me to look at his penis. I found it, together with the scrotum and pubes, greatly swelled and inflamed; and the skin upon the upper part of the dorsum penis was beginning to sphacelate. It was sufficiently clear how this was occasioned. The urethra had given way, and the urine was diffusing itself in every direction through the surrounding cellular membrane. I therefore proposed to him to make an opening into the urethra behind the obstructed part, and thus to obtain a temporary passage for the urine; while at the same time a drain would be afforded for that which had escaped, and for any purulent effusion that might happen in consequence of it. I confess that, considering his age,

the incipient sphacelus on the dorsum penis, which was spreading very fast, and other circumstances, I had very little hope of a favourable event. However, he was very urgent for the operation, and I accordingly performed it, assisted by my worthy and intelligent friend Mr. Blair.

An opening was made into the urethra through the most anterior part of the perinæum. The incision through the skin was about an inch in length, and that into the urethra itself about half as much. It was not till after some time, and with considerable difficulty, that the urethra was discovered; owing partly to the thickened state of the skin and cellular membrane, and the obliquity of the canal, which appeared to be almost obliterated at this part, in consequence of the former disease, and which prevented any instrument being passed to serve as a guide for the knife;—and partly to the tumid state of the parts from the effused urine and subsequent inflammation. At length about a table-spoonful of a brownish fluid, like that which is sometimes to be pressed from the prostate gland, issued forth*, and indicated that a puncture had been made into the passage. This being a little enlarged upward, the urine flowed out very freely. A female catheter was now introduced through the wound into the bladder, and secured in that situation.

The incision having in some measure set the penis at liberty, and lessened its contraction, Mr. Blair suggested the propriety of endeavouring to pass a few threads along the urethra from the glans to the incised wound, in order to remove the stricture, and render the future exit of the urine more easy, in case he should recover. This was accordingly done by means of a round and narrow slip of whalebone, to which the threads were fastened. The ends were then tied together, to prevent their coming out.

* All these circumstances are fully accounted for, by the state in which the parts were found on examination after death.

The patient was now put to bed. A drachm of Peruvian bark in powder was ordered to be taken every two hours; and wine, porter, broth, and any other nourishment that was acceptable to him, were directed to be given him.

He rested tolerably well that night, and appeared better the next day. His pulse, which had beat 120 in a minute, were reduced to 108. The wound looked well; the tension of the scrotum and parts adjacent had subsided; the sphacelus had not spread any farther; he had had a stool, had taken plenty of nourishment, and was in good spirits. The bark was continued as before.

The bladder was occasionally emptied through the catheter. I did not suffer the urine to drip away continually; fearing lest, from his age and debilitated state, the bladder might not recover power to retain the urine in future, if it were not kept in the habit of doing so.

Several days passed without any untoward symptoms; during which time the slough was cast off from the dorsum penis. But, becoming disgusted with the bark, he one day omitted it, and sphacelus again took place. However, on resuming his medicine, it was checked once more, and he recovered as fast as could be expected. He continued to take bark, gradually lessening the frequency of its exhibition, till the 16th of July.

When the wound in the perinæum began to contract, I succeeded in endeavouring to pass, first a small bougie, and afterwards an elastic gum catheter, along the urethra from its extremity into the bladder. This being kept there, the greater part of the urine was evacuated through it, at certain intervals; but not the whole: for when an inclination to make water came upon him, it was generally so strong, that part of it was forced away beside the instrument through the incision. Nevertheless I was in hopes that the wound would at length close up entirely, and heal over the catheter; but it did not: a small, narrow, cicatrized aper-

ture was left, through which, part of the urine continued to flow. The reason why it did not perfectly close will readily be perceived, when the nature and situation of that very singular obstruction in the urethra, which will presently be described, is understood. Had it not been for the peculiarity of this circumstance, I have no doubt that the incision would have perfectly united, and the urine have flowed entirely and freely through its natural channel. As it was, in about three months the wounds were cicatrized, and he was so well recovered as to be able to resume his former employment, which was that of a patrole.

Keeping an elastic catheter in the passage during the whole progress of the cure, in a great measure prevented the penis from contracting again into its former curved state.

It should be observed, that the inflammation of the cellular membrane had been followed by a copious suppuration, which trickled away as it was secreted; partly through the incised wound in the perinæum, and partly at the ulcer left by the sloughing of the skin on the dorsum penis. Some sloughs of cellular membrane had also come away through the latter opening. In consequence of this there was a considerable vacuity left underneath the skin above the ossa pubis, which discharged a good deal, and retarded his recovery. But this was at length healed by the application of pressure from a bandage, and compresses which were laid in the direction of the cavity and the sinusses leading to it.

He lived after this, sometimes able to work and sometimes not, till the latter end of the December following. It must naturally be supposed that a case so formidable as that above described, must impair the little remaining vigour of a man, whose life had been chiefly spent in the hardships of military service, and who had then completed his seventy-second year. The severity of the winter brought on a catarrhal fever; this he neglected

for upwards of a week, and it was then too late to render him any material assistance. After languishing a few days in this state, he died.

I was freely allowed to open the body after his death. I dissected out those parts which were connected with his former disease, and examined them particularly afterwards at my leisure. The following circumstances presented themselves:

I observed that the small aperture which remained from the incision was so situated, while the parts were in their natural position, that a line drawn from it through the axis of the urethra into the bladder, would be without the smallest inflection; and would intersect another line drawn through the axis of the remaining part of the urethra, so as to form an angle of 110 degrees, or thereabouts. In evacuating the bladder therefore, the muscular strength of which had been considerably increased from the resistance it was accustomed to meet with, almost the whole force of the stream of urine must have been directed against that point; and it was just before that point where the obstruction began, which is now to be described.

When I slit up the urethra, which I did with the greatest ease (as the skin of the penis had not been taken with it,) I observed it was particularly thin about the middle. On examining it more attentively, the canal appeared to have been double at this part, for more than an inch in length. So that in fact so much of the corpus spongiosum urethræ remained undivided. I now perceived that the abscess which had some years before collected there, had been formed between the skin and the corpus spongiosum, and had at length communicated with the canal of the urethra, both above and below. The urine therefore found a new passage through these apertures, which it kept open. The corpus spongiosum at this part was prodigiously thickened, and, contracting as the inflammation subsided, had, toge-

ther

ther with a corresponding contraction of the skin from the same cause, bent his penis very considerably forward; leaving the new passage, which was probably at that time only an irregular fistulous sinus, the most direct road for the urine.

This thickened portion of corpus spongiosum, then, interposed between the true and false urethra (if it may be so called,) forming an obstruction about an inch in length, the beginning of which was immediately anterior to the little aperture which remained after the operation. His prior difficulty in making water, with the swelling of the perinæum before any was forced away, will therefore be very easily accounted for. The obstruction here formed a kind of valve to each passage; both of them were curved by it, and consequently, a very great additional force *à posteriori* must have been required to have expelled the urine at all. This will also shew why the incision did not perfectly close at this point; and as the false urethra was most probably very narrow till it was dilated by the catheter, &c. will explain the difficulty with which the urethra was discovered in performing the operation.

My attention was next directed to the bladder; and it was curious to observe that at first sight this also appeared double; for by carrying the scissars onward, when I thought I had opened into it, I found on examination I had only opened into a cavity, situated where the prostate gland should have been, and into which the ducts of that gland opened. This cavity must therefore have begun to be formed in the centre of the prostate, and probably arose from the pressure the urine made upon its ducts, when urged on by the strong muscular bladder, and opposed by the obstacle just described. For as the man had been married, and had had children, it is not likely this could have been the original conformation of the parts.

The orifices of the ducts were very patent, as may be supposed

supposed from their admitting the scissars so readily. The cavity into which they opened was capable of containing at least an ounce; and was nearly filled with the same brownish kind of fluid that had been discharged in the operation.

Externally, there was no distinction of surface: the vesiculæ seminales and prostate gland appearing, in that view of the parts, to be incorporated into the substance of the bladder. The former were indeed almost obliterated; for, on completing the division of the bladder, only a very few cellular points, the remains of the vesiculæ, were discovered.

The bladder had an healthy appearance in every respect but its thickness, which, on the anterior part of its neck, could not be much less than half an inch.

The vasa deferentia were divided in extracting the parts, so that I could not attempt to inject the remains of the vesiculæ seminales from them. I endeavoured to inject the testicles, but the mercury was stopped in both by a sort of schirrous knob just before the vas deferens enters the epididymis. The testes themselves were a healthy appearance.

Art. 3. *On the Application of Pneumatic Chemistry to the Art of Healing, and on the medicinal Properties of oxygenated Substances.* By M. Fourcroy.

(Concluded from page 298.)

"SUCH is the route which I have constantly followed for more than fifteen years. It is now evident what the series of facts are which have led me to discover in oxygen and in oxygenated bodies qualities which hitherto have been explained by occult causes, or which have been regarded as impenetrable to human intelligence. I have studied to describe the connexion of my ideas with the new discoveries in chemistry; I ought to add some useful applications of these principles to the healing art, exhibit the relation which exists

exists between certain trials made by some modern practitioners and the objects which I have pointed out, and prove, that although these views and these trials have already been followed up, it is proceeding a great deal too fast and too far, to erect them into a general doctrine, capable of embracing the whole pathology and therapeia.

"It may easily be judged, that after the re-union of all the facts and all the observations which I have stated in succession, it was not difficult to find an opportunity of making some new applications of these. One of the first which presented itself was the oxygenated muriatic acid. The property which this is possessed of, to destroy all smell, first brought the idea into my mind of trying it in cancer, the *fœtor* of which is one of its most characteristic marks. My friend, Citizen Hallé, will easily recollect the success of these trials, which I made in company with him in the year 1787, on a woman who had a large cancer in her breast: we obtained a most remarkable change by the application of linen dipped in the liquid acid; the colour became more beautiful, the fœtor less offensive, and the discharge less serous, which at first inspired us with hopes, the duration of which was very short. Two other experiments, made by myself, did not add any thing to the former result, except a violent pain occasioned at the moment the gas came in contact with the cancerous ulcer.

"After some observations on the action of oxygen united to quicksilver, as an antivenerean remedy, which observations I communicated in the year 1790, in my course of lectures on animal chemistry at the Lyceum, Citizens Roussille and Vauquelin proposed to make trial of the oxygenated muriatic acid in two people, manifestly affected with syphilitic symptoms. The extreme prudence which they employed in the administration of the remedy, and the inconstancy of patients, which so often proves an obstacle to the accuracy of experiments in the healing art, did not permit them

them to observe if the oxygenated muriatic acid acted as an antisyphilitic, as I had augured; but they observed that the appetite of those who took it was sensibly augmented, their urine became greater in quantity and colourless, and their excrements were also without colour: which circumstances sufficiently proved to me that this substance acted on the whole system of the animal economy.

"The same year I announced, in the journal which I then edited, under the title of *Médecine éclairée*, that, from experiments which I myself had made, the oxygenated muriatic acid destroyed putrid miasma; that it might be usefully employed to destroy infection; that it might alter the nature of the virus; and that, considering it under this point of view, it might one day render essential services to humanity. I proposed it to the Anatomical Theatres as a substance which might resist corruption, and for the purpose of consolidating some soft organs, especially the pulpy substance of the brain: I pointed out how it might serve to destroy animal poisons introduced into wounds; I proposed to inoculators to verify this, by mixing it with variolous matter; and the knowledge which I had of the deleterious power of these liquid animal compounds made me think that I could announce beforehand the success of the experiment. Mr. Cruickshank has verified the truth of this assertion, by inoculating in vain with a mixture of variolous matter and this acid, and by shewing that the same variolous matter, when uncombined with acid, produced the small-pox. I foresaw equally well that this powerful agent, which possesses, in consequence of the oxygen with which it is surcharged, a quickly oxydating power on all mixed combustible bodies, was capable of destroying the hydrophobic poison in the wounds into which it is introduced. I have made it appear that this was the way in which the sur-oxygenated and sublimed muriate of antimony acted; and that, although experience had not yet confirmed this assertion,

assertion, yet such men as are well acquainted with anatomy and chemistry must easily foresee what would be the result. They ought to foresee that this medicine merits, on account of its aeriform penetrability, the preference in many instances over the sur-oxygenated muriate of antimony.

"A remarkable epocha in the page of history, the war of *French liberty*, furnished me with a good opportunity of making an useful application of my ideas concerning the medicinal action of oxygen. In this war, so terrible for its effects in the interior, and so glorious for the republic in the exterior, quicksilver became extremely rare. The advice I gave to the government, on the practicability of substituting several oxygenated substances for mercurial preparations, in the cure of syphilis and psora, which required a frightful quantity of these remedies in the military hospitals, not having been followed, because, without doubt, the officers of health who directed them had too many scruples concerning the efficacy of the trials which I proposed; while, on the other hand, their confidence in mercurial remedies was founded on long experience; I determined to develope my views, and to extend my ideas on this subject, in my public lectures; being persuaded that it would germinate by degrees in the minds of my pupils, and that these ideas would then experience the degree of acceptation and support which could alone give them that utility, of which I imagined them capable. It was in the course of the *fourth year*, that I insisted more particularly than I had ever yet done, both in *L'Ecole de Médecine*, and in the Museum of Natural History, on this new doctrine, and on the success which it promised in the healing art. I took, as the subject of discussion, the citrine ointment, of which I knew there was an immense consumption for the cure of the itch: I demonstrated that the oxygenation of the fat, by means of the oxyd of mercury and the acid of nitre, was to be regarded as the principal source of its vir-

tues, and that it was perhaps possible to dispense with the use of mercury for this preparation; that the nitric acid alone was capable of oxygenating the lard, by which it would gain evident medicinal properties; and that there was reason to be convinced, that, in this state, it would answer without mercury the objects of the citrine ointment. Citizen Alyon being present at this lecture, seized this thought immediately, and communicated to me his intention of putting it in practice; of seeking the oxygenating effect of the nitric acid on fat, and of discovering the properties it would acquire. His first trials, made with all the sagacity and prudence of which I knew him to be possessed, met with a success beyond his expectations: he proved, that fat oxygenated was both antipsoric and antisyphilitic. He joined with it the use of the nitric acid, employed by some English physicians, after the manner of their countryman Smith," *(H. Scott,)* "who first discovered its virtues in India. The success of this double method of external and internal application has not been disproved since that time; and the report of the commission which *L'Ecole de Médicine* had appointed to examine these new experiments will evince, better than thing else, how the first views which I have given of this subject have been pursued and raised by the care, the knowledge, and the assiduity of Cit. Alyon; who, as may be well imagined, after all the examples of novelties in medicine, has had, and may still have, obstacles of different kinds to contend with.

"While my efforts began to be followed by some success in France, learned foreigners, far from being idle spectators of these new ideas, adopted them, and cherished them with more eagerness than the French physicians. If some appeared to make a bad use of them, and to carry their pretensions in favour of the doctrines of modern chemistry too far; if one, for example, endeavoured to explain all the phenomena of life, if another foresaw a method of pro-

longing existence; the greater number, abandoning these roads exposed to precipices, followed the more sure path of experiment. Three philosophers have particularly distinguished themselves in this route, which I congratulate myself on having opened; although some of them have not done me that justice which I have a right to lay claim to. M. Humboldt, who combined at Berlin, in an ingenious manner, the new facts of Galvanism with the efficacy of chemical agents on the organs of living animals, threw in this manner a light on the phenomena of vegetable and animal functions. M. Beddoes, an English physician, examined and ascertained with care the action of different elastic fluids in diseases. Messrs. Rollo and Cruickshank, in studying in the same country the symptoms of a disease almost unknown here, although much more frequent than is commonly suspected, the *diabetes mellitus*, collected, in order to gain a better knowledge of its nature and causes, every thing which the new discoveries in chemistry proposed to them as useful and applicable to their subject. They saw in this disease a primary affection of the stomach, in which the vegetable aliment assumed a saccharine quality, in consequence of a particular attraction; that this quality was more or less quickly communicated to the urine, and occasioned a superoxygenated state of all the animal fluids. This ingenious theory they confirmed by the success of the remedies they employed. Their work, which is not sufficiently known in France, but with which Citizen Alyon has enriched the French school, is one of those scientific monuments, which proves how much assistance medicine has to expect from chemistry.

"Thus the impulse which I have announced has occurred: there is no danger that it will either be stopped or diminished. The only obstacle which this medical revolution can experience, arises from the fear of its proceeding with too much rapidity, and from its being injudiciously acce-

lerated by too ardent minds: indeed, there are already some signs of this dangerous acceleration in the learned world. This chemical doctrine, the slow and circumspect application of which may renew animal physiology, appears already to pass the boundaries of some whose understanding is otherwise commendable. They desire to build an edifice, and as yet there are scarcely sufficient materials to be united together. Doubtless it is already known that the animal system, in which oxygen plays a great part, may be in fault either from too much or too little of this vivifying principle; that at the same time it is the source of heat, it is also that of irritability and vital motion; that in applying it either externally or internally to patients, it in general excites the action of life; that we ought to admit two classes of remedies, the oxygenating and the disoxygenating; that the first augment all the activity, the heat and circulation, the force and mobility of the system, while the second retard all these natural effects; that often in the enlightened empiricism of good practitioners, which supplies the place of fixed principles, of which the healing art is still in want, the remedies they prescribe act either according to one or other of these faculties, either by an oxygenating or disoxygenating power. But if these assertions, which are already fundamental ones, are to be reckoned among the number of truths which medicine owes to modern French chemistry; if this salutary art can already promise itself more important assistance, and a more steady light than has yet guided it, how many things has it not still to desire? How many important problems has it not to propose to chemistry? How many solutions of difficulties has it not to expect, in order to abandon the path it has hitherto followed, in order to consider all its old foundations as so many errors and so many chimeras? What a distance there is yet between the first truths which we possess and that system of facts which is necessary for the formation of

a complete

a complete doctrine, a new system of medicine! Scarcely do we know any of the phenomena of certain functions of the animal economy; scarcely have we made any happy applications of the new pneumatic discoveries, and already we seem desirous of drawing general conclusions, as to the nature and causes of disease; scarcely have we entered on the analysis of some of the principal fluids in the healthy state, and yet we attempt to class diseases according to the chemical alteration of the fluids, and to form an humeral nosology. It is proposed to arrange diseases according to the excess or deficiency of hydrogene, azote, oxygen, or carbon, while we are as yet ignorant of the proportion of constituent principles in any animal matter considered apart. That which may happen, is confounded with what is already discovered; simple conjectures, and avowedly offered as such by their authors, are given as demonstrated truths: it might be said, that such men, calculated to create general theories, as fugitive as the ideas which occupy their mind, are determined to do harm, by a premature application of their opinions, and by hypothetical results, to a science of which they are not sufficiently qualified to make a prudent and reserved use.

"The only remedy which I know to be capable of correcting this evil, which alike threatens injury to medicine and chemistry, is to expose with precision the state to which this last science has arrived in explaining some phenomena of vitality; to state with precision the point to which it has arisen, to prevent the confounding that which is only probable with that which is certain. Thus much, I hope I have accomplished in this first memoir; I have at least attempted to do so with regard to the medicinal action of oxygen. This memoir is in fact only an introduction to the work which I propose to publish, in detached portions, on all the parts of animal physiology, on which modern chemistry begins to throw some light. My object is to separate that

which

which is accurately known, from that which some men pretend to know; to shew what we hope to attain by experience, as well as what is not yet known; and thus to stimulate, by great and beautiful experiments, more labourers than there are at present to cultivate this field, which promises such rich crops; and also to turn aside, from this glorious contest of trials, those who derange it by discordant clamours. If at every epocha in the general discoveries of natural philosophy, which have always had more or less influence on the progress of medicine, some intelligent people had taken care to separate the true and useful applications, and to combat with equal force all obstinate detractors who refuse to admit any influence from such discoveries, as well as all indiscreet innovators who attribute too much influence to them, the physiology of organized bodies would not have been infected with errors which have constantly dishonoured it by retarding its progress; and if we had not gained so many facts as we have always desired, we should only have been in possession of positive truths." H. M.

Art. 4. *Regulations for the Prize Medal of the Lyceum Medicum Londinense.*

IN our last number we gave the prize subject of the above Society, for the present year, as it had been officially communicated to us in a letter from the secretary; but the *regulations* which concern the prize question having then been omitted, we now subjoin them, for the perusal of gentlemen who may wish to become candidates.

1. The committee shall annually produce a medical or philosophical subject or question, on which every member of the Society shall be permitted to give in a dissertation.

2. The author of the most approved dissertation shall be rewarded with a gold medal, value five guineas.

3. The

3. The merits of the paper shall be determined, and the prize adjudged, by the committee.

4. The prize shall be publicly delivered to the successful candidate by the senior president of the Society, on the first meeting in January.

5. The dissertations, which are to be written in English, but not in the author's hand, shall be delivered to the register, on or before the first of November.

6. Each candidate must inscribe his dissertation with a motto, transmitting along with it a sealed letter, bearing the same motto, and containing his name and address, in order that the names of the authors may remain concealed till the prize is adjudged; and the names of all, except the successful candidate, remain unknown, by the dissertation, and letter, which is unopened, being laid aside till called for, or totally destroyed, according to the desire of the writer.

A.

Art. 5. *Current Price of Drugs in the London Market.*

		£.	s.	d.		£.	s.	d.	
ALMONDS, bitter	from	3	10	6	to	0	0	0	cwt.
——— sweet	—	5	0	0	—	5	5	0	—
——— Jourdan, new	—	18	0	0	—	18	18	0	—
Aloes, Barbadoes	—	15	15	0	—	16	0	0	—
—— hepatic	—	15	0	0	—	16	0	0	—
Alum, roach	—	1	19	0	—	0	0	0	cwt.
Ammoniacum, in lump	—	10	0	0	—	16	0	0	—
Angelica root	—	4	5	0	—	4	10	0	—
Aqua fortis	single	0	1	0	dou.	0	1	6	lb.
Arsenic, yellow	from	2	18	0	to	0	0	0	cwt.
——— white	—	2	18	0	—	0	0	0	—
Assafœtida	—	5	0	0	—	12	0	0	—
Balsamum Copaivæ	—	0	7	9	—	0	0	0	lb.
——— Peruvianum	—	0	7	9	—	0	8	0	—
Barilla, Spanish	L. —	2	8	0	—	2	9	0	cwt.
Bark, common Peruvian	—	uncertain							
—— red	—	0	2	3	—	0	2	6	lb.
—— second	—	0	4	0	—	0	5	6	—
—— quill, or best	—	none							
Benzoë	—	10	0	0	—	28	0	0	cwt.
Borax, refined, East India	—	12	0	0	—	14	0	0	—
——— unrefined	—	7	0	0	—	0	0	0	—
Camphire, refined	L. —	0	18	0	—	0	0	0	lb.
Cantharides	—	0	12	0	—	0	12	6	—
Cardamoms, best	—	0	16	6	—	0	0	0	—

Carraway

		£.	s.	d.		£.	s.	d.	
Carraway seeds, foreign	—	from 1	14	0	to 1	18	0	cwt.
Cassia buds	— —	— 27	10	0	— 28	0	0	—
—— fistula	— —	— none						
—— ligna	— —	— 18	0.	0	— 19	10	0	—
Castor, American	—	— 0	6	0	— 0	7	6	lb.
——— oil	— —	— 0	4	9	— 0	5	0	btle.
Cochineal, East India	—	— 0	11	0	— 0	12	6	lb.
——— Spanish, garbled	—	— 1	8	0	— 1	12	0	—
Colombo root	— —	— 18	0	0	— 19	0	0	cwt.
Coriander seeds	— —	— 0	15	0	— 0	16	0	—
Galbanum	— —	— 16	0	0	— 18	0	0	—
Galls, best Aleppo	—	— 8	5	0	— 8	10	0	—
—— mixed	— —	— 7	0	0	— 7	7	0	—
Ginger, Jamaica, black	— L.	— 2	4	0	— 2	8	0	—
Ginseng root	— —	— 0	6	6	— 0	0	0	lb.
Guaiacum	— —	— 0	3	9	— 0	4	6	—
Gum, Senegalense, ungarb	—	— 14	10	0	— 14	15	0	cwt.
Ipecacuanha root	— L.	— 0	17	0	— 0	0	0	lb.
Isinglass, leaf	— —	— 0	4	6	— 0	5	0	—
Jalap	— — L.	— 0	3	8	— 0	0	0	—
Lac, shell	— — H.	— 6	0	0	— 15	0	0	cwt.
—— stick	— —	— 9	0	0	— 0	0	0	—
Mace, long	— —	— 1	9	0	— 1	10	0	lb.
—— bonded	— —	— 1	5	0	— 0	0	0	—
Musk, China	——	— 1	8	0	— 1	12	0	oz.
Mustard, white	—— L.	— 0	8	0	— 0	12	0	lb.
Myrrh	— —	— 10	0	0	— 22	0	0	—
Nitre, rough	— —	— 6	19	0	— 7	0	0	cwt.
—— refined	— —	— 7	5	0	— 7	7	0	—
Nutmegs, sound	——	— 1	6	9	— 1	7	0	lb.
Oil, Lucca, or salad	—	— 13	14	0	— 14	14	0	cwt.
— Spanish	— —— L.	— 83	0	0	— 86	0	0	ton.
— linseed	—— —	— 44	10	0	— 45	0	0	—
Olibanum	——	— 6	0	0	— 8	0	0	cwt.
Opium, Turkey	—— L.	— 0	19	0	— 0	19	6	—
Pepper, white	— —	— 0	1	$5\frac{1}{2}$	— 0	1	6	lb.
Pimento	— — H.	— 0	0	$9\frac{1}{4}$	— 0	0	$9\frac{1}{2}$	—
Rhubarb, East India	— L.	— 0	6	6	— 0	10	6	lb.
——— Russia	— —	— 0	14	0	— 0	16	0	—
Saffron, Spanish	— —	— 2	0	0	— 0	0	0	lb.
——— French	— —	— 1	18	0	— 0	0	0	—
Sago	— —	— 6	0	0	— 6	6	0	cwt.
Sal ammoniac	— —	— 8	15	0	— 0	0	0	—
Sarsaparilla	—	— 0	3	6	— 0	4	0	lb.
Senna	— — — H.	— 0	5	0	— 0	5	3	—
Snake root	— —	— 0	6	10	— 0	7	6	—
Tapioca, Lisbon	—	— 0	1	6	— 0	0	0	—
Tragacantha	— —	— 18	0	0	— 19	0	0	cwt.
Turpentine, American	—	— 1	0	0	— 1	1	0	—
Verdigrise, wet	— —	— 0	2	9	— 0	3	0	lb.
——— dry	— —	— 0	3	9	— 0	0	0	—
Vitriol, Roman	— —	— 4	0	0	— 4	4	0	cwt.
Wax, Dantzig	— —	— 9	10	0	— 9	15	0	—
——— Hambro', white	—	— 0	2	6	— 0	2	8	lb.

*** The letter H. denotes that the price is getting higher, and L. the contrary.

D. A.

Fig. 3

Fig. 1

Fig. 2

CLEMISON'S ARTIFICIAL LEG AND HAND.

THE

LONDON MEDICAL REVIEW

AND

MAGAZINE.

VOL. I. N° V. FOR JULY MDCCXCIX.

ACCOUNT OF NEW PUBLICATIONS.

ART. I. *Memoirs of Medicine: including a Sketch of Medical History, from the earliest Accounts to the Eighteenth Century.* By RICHARD WALKER, Esq. Apothecary to the Prince of Wales. Octavo. pp. 250. JOHNSON, London. 1779. Price 5*s*.

IN this publication Mr. Walker has given a judicious and elegant compendium of medical history, in which he has selected the principal facts that are worthy of notice, and arranged them in four books. The first contains a review of medicine, as it was practised by the most ancient nations, and especially amongst the Greeks: the second relates to the state of medicine amongst the Romans, before the time of Galen: the third describes the system of Galen, and the general state of medicine in the lower empire, amongst the Arabians, and in the dark ages before the restoration of learning in Europe: and the fourth shews the progress of medicine from the restoration of learning to the eighteenth century.

In the first book, the author begins by noticing the earliest accounts of medicine; the most authentic of which warrant the supposition that it was first practised systematically in India, from whence probably it passed into Egypt, and gave lustre to the names of Hermes and Apollo. Whether Grecian medicine was or was not derived from Egypt, Mr. W. does not stay to inquire; for, before the time of Hippocrates, so little can be ascertained respecting it, that the investigation is scarcely worth that trouble which some learned men have bestowed upon it. But he has neither forgotten Melampus, who gave hellebore to the frantic daughters of Prætus, and steel infused in wine to cure the impotence of Iphiclus the Argonaut, nor omitted the liberal remuneration which this physician, and others of ancient date, received, and whose ample rewards are no small contrast to the blanks allotted to many modern practitioners. The names of Chiron, Esculapius, and his race, Pythagoras, Alcmæon, Democedes, Democritus, which have outlived the lapse of so many ages, are also introduced, with a short history of what is known concerning them.

An interesting account is given of Hippocrates, who first illuminated the night that enveloped medical science, by talents and industry which have commanded the esteem of every age, and whose works are to be regarded both as registers of former experience, and of his own individual observation. The following view of the pathology of this parent of medicine is just, concise, and elegant:

"The pathology of Hippocrates was very systematic with respect to the causes of disease, which he divided into external and internal. The former included whatever could affect the body outwardly, as air, exercise, rest, sleep, and watching; and the latter, those things capable of producing an inward influence, as meat, drink, secretions, retentions, and passions of the mind. In his observations on the air, winds, and seasons, he investigated the causes

of

of many similar and epidemic affections, the history of which constitutes a very considerable and curious portion of his works. Nor did he overlook endemic ones, proceeding from peculiarity of soil, situation, and climate.

"From such an author may be reasonably expected the natural division of distempers into acute and chronic. The former he confined to the term of fourteen days, and subdivided them into three stages, the beginning, increase, and termination, or crisis. The transition from the second to the last of these stages was the period in which he expected some indication from nature, by what outlet the morbific matter was to be expelled; and this intention he was particularly careful not to interrupt, by exciting any other or contrary motion. When the crisis proved partial and incomplete, he still reckoned every change, or new accident, attended with evacuations either from the skin or the intestines, critical in a degree, till the full concoction and expulsion of the humours was effected.

"In fevers of the most acute kind, Hippocrates looked for a regular crisis on the fourth day; but in those less acute, on the seventh, eleventh, or fourteenth; after which the remainder of the disease was ranked amongst those of the chronic kind. In this state he waited for the twenty-first day, and afterwards counted every fourth remarkable, though not necessarily and absolutely critical. But through his whole system, the number seven, in all possible combinations and divisions, extending even to months and years, was regarded as the most certainly and finally judicial of all periods. He made allowance, however, for occasional exceptions to all these rules, and noticed the circumstances of some acute diseases terminating without any regular or visible crisis at all. He likewise acknowledged frequent irregularities, by a translation of the offending matter from one part to another, which motion is still denominated, in his language, a metastasis.

"The numerous exceptions furnished by experience to the uniform course of acute diseases, have been thought insurmountable objections to Hippocrates's theory of critical days. Nor can these perhaps be wholly obviated, either on the supposition of physical changes, induced by difference of climate, habit, and time, or the general alteration occasioned by the interference of art.

"But whatever may be thought on this subject, it seems impossible to point out a better foundation of diagnostic skill, than the method observed by this great master of the art, whose critical knowledge of symptoms enabled him not only to distinguish one disease from another, but to foresee almost all their possible changes and terminations. His care and condescension in noticing a multitude of signs, which are too generally overlooked, and totally escape the eye of superficial observers, was no less singular than constant and exact. In a thousand little peculiarities of mind and body, position of the limbs, voluntary and involuntary motions, expressions of countenance, and the hourly variations of rapid diseases, he could discern indications of great consequence. But his most certain prognosis was founded on the nature of the secretions, and of the urinary and alvine discharges; the appearances of which supplied him with such rational grounds of judgment, as no succeeding examination has been able to impeach.

"This account of his pathology cannot be concluded without observing the uncertainty in which he has left posterity respecting his knowledge of the pulse, which many of his successors have made an almost universal criterion of disease. The pulsations which he frequently describes, have been thought by some to allude merely to the general throbbings felt in acute or inflammatory complaints; whilst others have construed his expressions agreeably to a more precise and modern idea of the term. It does not, however, appear, that he ever expected from it indications of the first

first consequence. His authority, therefore, cannot be quoted for enhancing the importance of a symptom, which, considered abstractedly, may lead to almost every species of practical mistake.

"To the industry of Hippocrates the science is probably indebted for an account of all the diseases which came under his inspection. Of the whole number, the greatest part are still characterised by the names invented or adopted by him, and not more than five or six of them appear to be extinguished or unknown."

Aristotle is next noticed, so liberally and deservedly patronized by Philip of Macedon and his son Alexander. The former prince, though he "never failed in due respect to the science, was not blind to the artifice or vanity of its professors, as is curiously evinced in the story of Menecrates, who took the surname of Jupiter, and travelled about the country with a train of followers habited like inferior deities. When this most eminent of medical coxcombs arrived at the Macedonian court, he was treated with the most studied and ironical respect by the monarch, who ordered him to be fed in state, like an aerial deity, with the vapour of burning incense, whilst himself and his courtiers feasted at an inferior table on more substantial fare."—Theophrastus, Diocles, Nicander, and others, are then mentioned; and this part of the work concludes with an account of the dissections and discoveries of Erasistratus and Herophilus, and the dispute between the medical dogmatists and empirics of antiquity.

"Notwithstanding the virulence of these contests, in appreciating their mutual faults, there is no proof that the former were guilty of despising the uses of experience, or the latter of disregarding the dictates of reason and reflection. Nor can those mischievous principles or practices be alleged against the original founders of empiricism, which their successors have made the refuge of ignorance and craft.

"To the industry of ancient empirics we are indebted for the introduction, or rather for the full knowledge of sedative and narcotic remedies, on the liberal use of which probably depended the superior reputation acquired by some of them over their more cautious antagonists. Of this superiority a singular instance occurs in the many existing testimonies to the fame of Heraclides of Tarentum, recorded as the most successful physician in any age or country of the world.

"The names of Serapion and Philinus have been preserved as the two first and most eminent teachers of ancient empiricism. To the conduct of their disciples, besides the changes effected by their principles in the essence of medicine, may be traced those which soon began to appear in its external form and condition.

"No longer engaged in studying systems, and averse to speculating, even on systems of disease, they exerted their whole faculties in investigating the power of medicinal substances, which laid the foundation of their pre-eminence in pharmaceutical skill. When sufficient exercise was found for this peculiar talent, the care of prescribing diet, and performing manual operations, were left to others, who in like manner confined themselves to their several departments.

"The healing art, which had hitherto been uniformly studied and practised in all its parts by one man, thus became divided into various branches, so that the dietetic and pharmaceutic physician seldom acted in concert. Nor did the chirurgeons generally employ their hands or instruments, but in succession to them, except in cases of accidents. The apotheca, or repository of simple and compound medicines, was for a long time in the house of the pharmaceutic physician, whither they were brought ready for use by the several tribes of collectors and workmen, who at length used an accidental knowledge of their qualities as a step to usurp the office and dignity of their masters."

Our

Our limits will not allow us to take much notice of the second part, although it contains an account of the writings of Celsus, of Pliny, of Aretæus, and of the methodic sect, with many curious and interesting particulars.

The third book begins with an account of Galen, and his writings; and proceeds to shew the state of medicine from his time to that of the Arabians, who first introduced the use of sena, manna, rhubarb, and cassia, instead of the drastic purges before employed. A description of Arabian medicine is followed by a retrospect to the dark ages in Europe, and particularly in England.

"It would be flattering to the pride of patriotism, to find amongst our own countrymen any exception to the reproach of general ignorance, in the dark ages we have been surveying. But truth compels us to acknowledge, that in the gross and barbarous manners of our ancestors there are as few vestiges of study or rational investigation, as in those of the most illiterate nations of antiquity. Nor was their progress in the acquisition of useful knowledge less tardy in any of its branches than in their medicine, which consisted wholly of pretended secrets or absurd rites and incantations, practised by the lowest and meanest of the people.

"The annals of the twelfth century furnish the earliest mention of medicine being studied as a science in the university of Oxford, whither the impure doctrines of the Salernitan school were imported about this æra. But it was almost wholly taught and practised by the clergy, who, like those of other countries, found it a ready road to riches and honour.

"The division of these practitioners, at so early a period, into physicians, surgeons, and apothecaries, seems to have originated partly from ecclesiastical restraints, prohibiting the regular orders of the clergy from practising particular branches, which seemed discordant to their holy profes-

profession, or which required any long absence from their sacred duties.

"It will appear singular, that, amongst these practitioners, the compounder of medicines should have been in higher estimation than the other classes, without recollecting that the mysteries, with which he was supposed to be acquainted, peculiarly recommended him to the superstitious reverence of the times. As an instance of this superiority may be mentioned Richard Fitz-nigel, who, from the office of apothecary to Henry II. was promoted to the bishopric of London."

The fourth book brings us near to our own times, and traces out in a clear and succinct manner the influence which the restoration of learning had upon all the branches of medical knowledge. The learned reader will easily conceive what he is to expect in this part of the work, and those who are less acquainted with medical history will be amply repaid in pleasure and information for the trouble of reading it throughout.

The author has not forgotten to name, with just praise, the late Dr. Warren, "whose medical skill, improved and enriched by every various and cultivated talent that has claims on public confidence, was adorned and polished by as much candour and urbanity of manners, as ever gave consolation to sickness, or conciliated private esteem. But the fading breath of contemporary praise can only transmit an imperfect and fleeting memorial of that consummate art, which leaves no fixed effect behind."

The work is concluded by some pointed observations on the present state of medicine in England: a superficial view of which, Mr. Walker observes, "discovers the defects of medical education, and medical character, in many of those engaged in the profession; who, having been early destined to a very important office, without any regard to previous qualifications, labour under the constant necessity of procuring

curing their daily support by means, calculated neither to promote their own progressive improvement, nor the comfort and advantage of their patients.

"But besides a very common and absurd mode of compensating medical attendance, the general inadequate remuneration of medical skill, with few exceptions in regard to eminent and superior practitioners, is another cause of its rarity; the more surprising in a country, where industry in other employments is rewarded without grudging, and men are daily enriched to excess by occupations that require very little mental exertion, and are wholly exempted from the painful sameness of a life, passed in listening to tales of misery in the polluted atmosphere of sick chambers.

"In pursuing this subject, the comparisons appear defensible, which contrast, not only the few instances of opulence, but of humble independence acquired by medical practice, with the riches that ennoble the professors of other liberal sciences, and furnish a young and unworn mercantile crowd with ample offerings for the shrine, at which all pretensions to modern greatness are confirmed.

"Another local and appropriate source of defect in this island is the venality, which disposes of academical testimony on the most contemptible terms, and introduces a confusion into medical distinctions, that has long and loudly called for the hand of restraint. This abuse, however, may serve to demonstrate a sort of exclusive virtue in medicine, which can preserve any tolerable credit in circumstances that would more materially affect that of other professions. For the law would lose much of its due respect, even in judges, if its meanest retainer could emblazon his coat with the ermines of the bench; nor would the dignity of archbishop, burlesqued by an illiterate curate, fail to disgrace the authority it was intended to support.

"Amongst other casual and external impediments delaying the progress of our art, which it would be the com-

mon interest to remove, must be reckoned the irregularity of public sentiment in matters of health, which has seldom been guided by reflection, or attention to public good. And in this respect it would be impossible to question the claims of the present age to all the honours of credulity, and the most licentious disdain of reason and common sense.

"Much of this pre-eminence belongs to those of the highest ranks, whose example has its full force on the most distant undulating circle of society; in every part of which a currency is hourly given, not only to barefaced craft and extravagant profession, but to every chimerical reverie that ventures to imagine great and substantial effects produced by powers, either not in existence, or wholly inadequate to the pretended purpose.

"The slightest degree of compliance with such follies, in medical practitioners, beyond that of silent contempt, doubtless merits the reproof of treason to the true interests of that science, the purity of which it is their duty to preserve. But no censure is equal to their criminal servility, who add to such compliance, not only the general meanness of flattery, but the baser condescension of founding professional consequence on subserviency to the vices of their patients.

"To close the train of domestic obstructions to the improvement of our art, comes the subtle influence of fashion, incessantly and banefully operating on the vigour of science, in the indolent vacuity of luxury and wealth. And what can more powerfully discourage honest application to any duty of social life, than a dependance on the thoughtless caprice, that unfeelingly withdraws confidence and reward, with the same want of judgment with which they are frequently bestowed?

"In taking leave of the subject, let imagination be indulged with conceiving the utmost perfection of human medicine, by a removal of all external hindrances, and an universal prevalence of the most enlightened practice; and

there

there will still remain enough of bodily sickness in the world, greatly to impede and diminish the enjoyment both of sense and intellect, through the short and feverish dream of human life." Q.

ART. II. *A System of Dissections.* By CHARLES BELL. Part II. Containing the Anatomy and Diseases of the Thorax, with Plates. Folio. JOHNSON, London. 1798. Price 5*s.* 6*d.*

IN a former number (p. 42,) we had occasion to notice the *First Part* of Mr. Charles Bell's System of Dissections. We now proceed to give a farther account of that valuable performance. Keeping in view the general plan which he at first adopted, Mr. Bell has divided the present subject in such a way, that each branch of it may be comprehended in one dissection of the parts, as they lie in the dead body. Those parts of the anatomy have been chiefly dwelt upon, which are useful in dissection, or in understanding the local and organic diseases. The first dissection of the thorax includes the muscles and blood-vessels which lie upon the breast and lower part of the neck:—then, proceeding to the viscera, the appearance of the heart, lungs, and mediastinum, upon lifting the sternum, makes the second division:—the manner of displaying the heart is next explained:—then the injection of the great vessels proceeding from it:—the dissection of the nerves of the neck, and of the chest, closes these several views of the anatomy of the thorax.—Lastly, the *morbid* anatomy of the breast is delivered: *first*, of aneurisms, and the diseases of the heart and larger vessels, with the circumstances which are to be observed in the dissection of those diseases: and *secondly*, the diseased appearances of the lungs, of the pleura, and of the cavity of the chest in general.

As concretions and dilatations of the arteries have long been a subject of inquiry, and as it is one which involves much matter of practical importance in its discussion, we have here thought proper to exhibit the sentiments of our author.

"OF CONCRETIONS.—Pushed on by the success of some experiments upon the generation of bone, I applied with keenness to every opportunity of examining morbid concretions in the coats of arteries; and although I came to no new conclusions with regard to their formation, I was confirmed in the opinion, that, in accounting for dilatations in arteries, too much importance has been given to concretions, while the general state of the artery has been overlooked; and that concretions are more of an accompanying evil, and only one of many forms which diseased arteries assume. These concretions are situated betwixt the inner membranes of arteries and their muscular coat. They are of two kinds. More generally they appear upon the inside of the artery yellow and irregularly concreted tubercles; and upon the injection and drying of the artery they raise its surface into irregularities. It is in this state, that, upon opening them, they are frequently found surrounded with matter, thick, and of the same colour with the concretions. This led Haller to the explanation, that these ossifications, as they are commonly called, are concreted from a fluid matter deposited; in opposition to the opinion, that the matter is formed in the surrounding coats, by the irritation of this foreign substance causing ulceration. Were this fluid matter produced by ulceration, we could not conceive that the artery should be able to sustain the force of the blood for an instant, or what limits should be set to the ulceration. These opacities are often seen without any concretion.

"This matter, surrounding the concretions, was observed by the older anatomists; but was considered rather as a circumstance confirming them in their opinion, of the concretions

cretions being true bone; for this they considered as the marrow.

" In the broad scales, which more resemble bone, this fluid matter is *seldomer* found. Such broad scales are frequently found almost completely surrounding the artery, without any dilatation or aneurismal enlargement of the artery; while the more irregular tubercles are common in the enlarged arteries.

" Rupture from the scales formed in the coats of arteries happens very seldom in the great arteries of the trunk. From the cases on record it would appear, that the fair rupture of the aorta takes place more frequently within the pericardium, and at the root of the heart.

" It is wonderful, that the larger trunks of arteries, where they lie in an even course, are sometimes surrounded with scales of these concretions, while yet they seem to perform their functions. Ossifications in the lower part of the aorta are very frequent without dilatation.

" Of the cause of aneurisms.—In aneurisms of the great arteries, the coats are found thickened, firm, and easily separating into layers, almost constantly with concretions formed in them, and with their elasticity always remarkably diminished. These ossifications have been always assigned as the cause of enlargements of the arteries; but the degree of the enlargement, and its place in the artery, do not seem affected by the ossifications. If these ossifications caused the enlargement of the artery, by acting mechanically by attrition and destruction of its coats, they would produce, not a gradual and extensive enlargement, but a partial and sudden one; such as we find in the extremities. It has been said, that the ossifications in the coats of arteries occasion greater resistance to the dilatation caused by the action of the ventricle of the heart; and that this resistance exciting the heart to greater action, it becomes at last so great, as forcibly to dilate the artery.—A strange

subtility,

subtility, to make the strength of the artery the cause of its being overpowered. It is said again, that these ossifications destroy the muscular coat of the artery; and, consequently, rendering it incapable of withstanding the stroke of the heart, it ceases to second the stroke of the heart, and suffers itself to be dilated. But the muscular coat of an artery is not that which resists the passage of the blood, or rather the dilatation occasioned by the force of the ventricle; the muscular coat is alternate in its action with the heart. During the contraction of the heart it is in relaxation; and it is only when the heart intermits its action that the muscularity of the greater arteries acts in resistance to the muscularity of the extremities; whose combined power would repel the blood back to the trunks, and dilate them, were the greater trunks not enabled to resist by the additional action of their muscular power. The great power of resistance in the arteries near the heart, to the blood propelled from the ventricle, is their elasticity. This is a power which yields, yet resists. By its yielding, and yet its uniform increasing resistance, even to the utmost stretch of its elasticity, it subdues that shock which the great vessels would otherwise receive from the sudden exertion of the heart. Upon dissecting the coats of dilated arteries, it is apparent that the whole functions of the vessel must be impaired; the coats are thickened; are easily divisible; and have lost their elasticity. And upon examining the length of the aorta, when thus diseased, it is found dilated; not uniformly where the ossifications are most numerous or longest, but often where there are no hardenings or concretions in the coats. On the other hand, whole tracts of ossification will be found without any dilatation of the artery. In this state the arteries can no longer dilate upon the action of the heart, and uniformly resist and contract again; but, on the contrary, there is a more solid and inert resistance to the impulse of the heart, their coats being thick,

and

and unelastic: so that every contraction of the heart gains a point in the dilatation of the artery, which (unlike the dilatation of elasticity) is never regained. Thus, although the artery be actually strong in its coats, and dilated and filled with firm coagula of blood, yet will the impulse of the heart gradually encroach upon this inert resistance.

"CAUSE OF DILATATIONS BEING MORE FREQUENT IN THE CURVATURES OF ARTERIES.—The arteries are more generally dilated at their curvatures, or where branches are sent off. The reason of this is evident, if we allow the above explanation of the cause of dilatation in general. Those who have paid minute attention to the structure of arteries, have found, that where an artery sends off a branch, or takes a sudden turn, its coats are strengthened to resist the action of the blood, which must be greater at these points: and as this increase of strength must consist in a more powerful elastic and pliant resistance to the current of blood propelled by the heart, combined with such a proportion of muscular power, as to react equally with the rest of the canal; so, when the coats of the artery become diseased, they bring the artery to the state of a rigid tube; and, consequently, the force of the heart becomes more quickly perceptible at those points which are most exposed to the current of the blood, and where that power which formerly resisted in a greater degree is now reduced to the same state of inactivity with the rest of the tube. Thus we find dilatations more frequent in the curvature of the aorta, at the root of the great vessels going to the head and arms; and in the belly, at the cœliac and emulgent and mesenteric arteries.

"OF ANEURISMS IN THE EXTREMITIES.—This explanation of the cause of dilatation may be extended to the aneurisms of the arteries in the extremities, where we almost constantly find the enlargement of the artery at the part where it lies in the great joints, as in the groin or ham.

But in the aneurisms of the extremities there is often another cause of dilatation, which arises from the mechanical effect of the concretions in the coats. In dissecting the tumour of the artery, it is frequently found, not to be a uniform dilatation of the coats of the vessel, but the artery is seen upon one side of the tumour, and resembles that aneurism which is formed by the puncture of the vessel, and by the blood escaping from it into the surrounding soft parts, and forming a sac. Wherever I have had an opportunity of examining the artery, it was much ossified and diseased above the tumour; a circumstance always to be dreaded in attempting the operation when it is an aneurism of the dilated coats.

"These concretions in the coats form gradually; and they adapt themselves to the shape of the artery in the prevailing posture of the limb. If the leg be for the most part stiff and rigidly extended, upon any violent exertion the artery is bent, and its coats torn upon the edges of these concretions. On the other hand, if the limb be shrunk up and contracted, the artery being at the same time diseased in much of its extent, may have formed a scaly concretion in a curve answering to the bend of the artery at the joint, as in the ham or groin; and in this case, a violent attempt to stretch the leg will have the same effect, since it must bring the artery to an angle differing from that of the scale which has been formed in its coats, and so rupture it. There are cases of this kind upon record.

"MORE PARTICULARLY OF THE GREAT ANEURISMS IN THE BREAST.—While slight dilatations are very frequent in the aorta, as it proceeds from the heart, and in its great arch, it is universally observed, that dilatation of the pulmonic artery is very rare. When the dilatation of the aorta has proceeded a certain length, it rapidly increases. Aneurism never is, in its commencement, a local disease: but when the dilatation of the artery has proceeded thus far,

far, it generally at some one point gives way more easily; so that the dilated sides of the artery are pushed towards the root of the neck, or, being forced directly forward in the chest, come in contact with the sternum. The bone for some time interrupts its progress; but by the continued impulse from the heart, the coats of the artery seem to be worn away in the pulsation against the bone: while, on the other hand, the periosteum and membranes which cover the bone are entirely destroyed, and the bone itself becomes carious. Or sometimes the dilated sac of the artery, stretching widely under the sternum, finds a less resisting passage betwixt the cartilages of the ribs, destroys their membranes, and, protruding, raises a beating tumour externally upon the breast. When this happens, there are generally two tumours; the tumour of the one side appears before that of the other, and commonly they rise upon each side of the sternum, about a hand's-breadth below the clavicle.

"To examine the state of the parts; we may proceed thus: dissecting off the integuments from the breast in the usual way, they may be laid back until the tumours on each side of the sternum are completely laid bare. But it may happen, that when the dilatation has proceeded freely in this direction, the skin (if it have not actually burst) is stretched and inflamed, and has become as it were one substance with the sides of the cyst, and cannot therefore be dissected off. When the integuments are still loose, upon taking them off, the pectoral muscle is found with its fibres thinly scattered over the protruding sac, and strengthening it; and the sac itself appears to be composed of condensed cellular membrane, with something like the natural coats of the artery forming its inner layer.

"If it be intended to make a preparation of the diseased parts, the sternum being loosened from its attachments, the heart may be taken out along with it, and afterwards displayed with the dilated artery pushing through the inter-

stices of the ribs. It, however, seldom happens that we can be thus far masters of our time in private dissection. When the sternum is raised in the common way, the tumour of the aorta is found adhering with a broad circumference to the under side of the sternum: this must be cut through, and with the coats of the aorta we must cut much hard coagula of blood.

"Upon examining the under side of the sternum, the bony part of the sternum will in general be found wasted by the blood. Sometimes the cartilages also are found wasted; but they seem better to resist the blood. The blood must affect the bones by insulating them, and depriving them of the membranes which nourish them, and also by mechanical action. Upon examining the aneurismal sac, it will be found greatly thickened, irregular, with white callous scales, or tubercles, embrued with a matter resembling pus; and upon the inside of the sac lamellated clots, partly resembling membranes, partly concreted blood. Upon turning the attention to the heart, it will, I think, be found small and firm in its texture, and forced lower down in the breast. Upon looking down into the dilated aorta, the valves appear thickened and white, with concretions.

"In thus describing the manner of examining these aneurisms of the great arteries, the most common circumstances attending them have been detailed; yet a great variety of appearances must present themselves to us. The coats which fill up the great bag of the tumour should be examined, so as to acquire some idea of their progressive formation; for this may perhaps explain some of the symptoms during the patient's life, as the sudden subsiding of the tumour, its more suppressed pulsation, &c. Or the tumour of the artery may be found compressing the trachea, or lungs, or encroaching upon the cava, or in some more immediate way affecting the respiration or the circulation of the blood." D.

ART.

ART. III. *The Effect of the Nitrous Vapour, in preventing and destroying Contagion, ascertained from a Variety of Trials made chiefly by Surgeons of his Majesty's Navy, in Prisons, Hospitals, and on board of Ships; with an Introduction respecting the Nature of the Contagion which gives rise to the Jail or Hospital Fever; and the various Methods formerly employed to prevent or destroy this.* By JAMES CARMICHAEL SMYTH, M. D. F. R. S. Fellow of the Royal College of Physicians, and Physician Extraordinary to his Majesty. Octavo. pp. 231. JOHNSON, London. 1799. Price 5*s.*

THREE years have now elapsed since Dr. Smyth published an account of the experiments made with the nitrous fumigation, on board the Union hospital-ship, and of similar trials made at the same time on board some ships of the Russian squadron; the particulars of which have been enumerated in almost every periodical publication. The volume before us contains, in addition to these, many useful practical observations, delivered in an introduction and appendix, so that it may be considered as being divided into three parts.

A fact of such importance to mankind as the utility of nitrous vapour, ought to be made as generally known as possible; and after the numerous attestations of several gentlemen, contained in Dr. Smyth's publication, we hope that some effectual means may be thought of by the legislature to enforce its adoption in places where contagion is daily exerting its baneful influence.

The introduction contains those general observations on the jail and other putrid contagions, with the usual means of obviating them, formerly published in the treatise on the fever at Winchester. "As we are perfectly acquainted, says the author, "with the causes of the jail contagion, we could certainly prevent its formation, provided the means of doing so were always in our power; but as we cannot

command these, our next object is to endeavour to correct or destroy it when formed. As a knowledge of the nature and origin of the jail contagion naturally led to the proper and effectual means of correcting or destroying it, so, on the other hand, the means that have been successfully employed to destroy it, afford the most convincing evidence of its true nature.

" The various means hitherto employed for destroying contagion, may be arranged under two distinct heads, or classes, viz. the Physical and Chemical.

" All contagions, whether specific or putrid, are either checked or completely destroyed by the extremes of heat and cold; and, from a free exposure to air and water, are so diluted and dissolved, as to lose their noxious quality. Heat and cold, then, with air and water, may be looked upon as physical agents, which, under certain circumstances, are effectual in blunting or destroying contagion. A degree of heat, nearly that of an oven, is found necessary for the complete destruction of contagion; but as this degree of heat is incompatible with animal life, its application is solely confined to the purifying of such clothes, furniture, &c. as cannot be injured by this treatment. But, although the degree of heat requisite for the complete destruction of contagion can only be used for one particular purpose, heat and fire, judiciously managed, may, in various ways, tend to lessen the power, or to check the progress, of this pernicious vapour: for as closeness and dampness are favourable to the production and spreading of contagion, drying and rarefying the air, by counteracting these, must, so far at least, be proper antidotes. But, independent of those effects of heat, an open fire, especially where the fuel is burnt in a narrow flue, is of great benefit; for, by consuming a portion of the air, it causes a more sensible renewal of it, and, in fact, is one of the best ventilators. In employing fire and heat, however, care must be taken not to increase the

heat

heat in the apartments of the sick, as this would prove more hurtful to them than the drying or renewing of the air could be advantageous.

" The degree of cold necessary to destroy contagion is probably, like the degree of heat, inconsistent with life; and, therefore, although we hear of contagion having been checked or suppressed by cold, there are few instances, if any, of its being completely destroyed. Besides, as it is not in our power to employ cold at pleasure, the question respecting its effect, of whatever importance it may be to the pathologist, is of little consequence to the practical physician.

" That noxious vapours are hurtful only when concentrated, and are harmless when diffused, are facts or data universally admitted; and it is upon this principle that clothes, bedding, or other matters to which contagion adheres, are purified, or lose their deleterious quality, by exposure for a sufficient length of time to the open air, or to a current of water; but, as the time requisite for this mode of purification is uncertain, and as contagious clothes, goods, &c. cannot always be exposed in a proper manner, we are commonly under the necessity of having recourse to those more expeditious means of purification which chemistry affords, and which I shall next examine.

" The chemical means hitherto employed for destroying contagion, are the following:

" Burning sulphur with charcoal.
——— with arsenic.
nitre.
gunpowder.
portfire.
tar.
tobacco.
wood.
" Boiling vinegar.
——— with camphire.

" Boiling

"Boiling tar.
"Washing with vinegar.
"White-washing.
"Painting."

Each of these means is separately considered by the author; and he then proceeds to explain those improvements which he has made with a view to ascertain the efficacy of the nitrous acid, and the safety with which it may be used, where people are necessarily present.

"The mineral acids, particularly when in a state of vapour, with the different gases or permanently elastic fluids produced by them, are probably, excepting fire, the most powerful agents in nature, and the source of an infinite number of the different forms of matter observable in the mineral kingdom, and which are constantly undergoing fresh changes, from their various combinations, and decompositions. But their power is not confined to the mineral kingdom; they are known to have great influence likewise over putrefaction, and those other spontaneous changes which vegetable and animal matter, deprived of life, undergoes; and therefore, if the jail contagion, as I have endeavoured to prove, is a vapour produced by putrefaction, there cannot be a doubt that the mineral acids will prove effectual in destroying it. So far we may reason *à priori*; but let us next consult experience, a less fallible guide. From this it appears that the volatile vitriolic or sulphureous acid, the only one hitherto made use of, proves effectual in destroying contagion; although, owing to its deleterious quality, it cannot be employed, except in situations from which people can be removed. But, are the other mineral acids in a state of vapour equally dangerous with the sulphureous? and are they equally effectual in destroying contagion? To the first of these questions I can give a positive answer; to the second I can give one that, at least, is highly probable.

"In

"In the first place, I can safely affirm, that the nitrous acid may be employed in very great quantity without risk, and even without the smallest inconvenience; and, that it is effectual for the destroying of contagion, I have every reason to believe, not only from analogy, but from experience. I had frequently used the nitrous acid, as a fumigation, in hospital wards, and in the private apartments of the sick, without perceiving any unpleasant effect from it; but, to ascertain with more precision a fact of this importance, I made the following experiments; in the conducting of which, Mr. Hume of Long Acre, a very ingenious man, and an excellent chemist, was so obliging as to favour me with his assistance."

From these experiments we learn that a mouse and a goldfinch did not suffer the slightest inconvenience from being kept a quarter of an hour in a glass cylindrical jar, filled with the fumes of the smoking nitrous acid; nor from exposure, soon after, to the vapour of pure nitrous acid, detached from nitre by the vitriolic acid. "We made trial also," says the author, "of the marine acid, by adding common salt, instead of nitre, to heated vitriolic acid: during this experiment, the bird appeared to be now and then somewhat uneasy, and opened its bill; but at the end of fifteen minutes, upon removing the jar, it hopped about as lively as before. We then exposed the bird to the fumes of sulphur, burnt with an eighth part of nitre; it immediately gave signs of uneasiness, opened its bill, and seemed to pant for breath in such a manner that we were afraid to cover it with the glass jar. We likewise made trial, in the open air, of the oxygenated marine acid *; for as this is so

* "The oxygenated marine acid is a discovery of the famous Scheele, and has been recommended by Berthollet and Chaptal, two French chemists, for the purpose of bleaching. I am informed that it has also been lately used in France to destroy contagion; but the particular circumstances and manner of its application I have not yet learnt."

extremely

extremely deleterious, we did not think it safe to expose ourselves to the vapour of it in a room, nor did we venture to expose the bird to it in any other but in the open air; and even there it appeared to suffer very much.

" Having made trial of the effect of the different mineral acids, in a state of vapour, upon animals, we determined to render the experiment still more conclusive, by trying what effect they would have on ourselves. With this intention, we filled the room * in which we were with the fumes of nitrous acid (obtained by mixing nitre with heated vitriolic acid, in the manner already described), until the different objects became somewhat obscure by a kind of fog or mist produced. The fire irons and steel fender lost their polish, and the vapour arising from a bottle of aqua ammoniæ puræ, placed at some distance from the table, was evidently neutralized, as it issued from the bottle, by the vapour of the nitrous acid.

" Mr. Hume and I remained in the room the whole time, without perceiving the slightest inconvenience; the fumes did not excite coughing, nor affect the eyes in the way the smoke of wood commonly does, even when I held my head over the glass saucer, and breathed them immediately arising from it. We made trial likewise of the effect of the marine acid, which we found more pungent and stimulating than the nitrous; but, though it excited coughing, it did not cause that constriction of the windpipe and tightness at the chest, with the sense of suffocation, which is immediately induced by the volatile vitriolic or sulphureous acid. Indeed, we were imprudent enough to try how far we could breathe this last; but I was instantly obliged to run to the window for air, from the sense of constriction, and of suffocation, which it occasioned. We

* " The room in which we made the experiments was a small parlour thirteen feet by ten, and eight feet high; or about 1040 cubic feet."

likewise tried the effect of the mixed fumes of the marine and nitrous acid, a kind of volatile aqua regia, which we found more pungent than the marine acid by itself. As for the oxygenated marine acid, perceiving the effect of it on the bird, and knowing how extremely dangerous it is, we did not venture to go very near it.

"From the preceding experiments, the different acid vapours, in respect to the safety with which they may be breathed, may be arranged in the following order:

1st. The vapour of nitrous acid, arising from nitre decomposed by vitriolic acid.

2. That of nitrous acid in its fuming state, or when the nitric acid is mixed with nitrous gas.

3. That of marine acid, arising from common salt, decomposed by vitriolic acid.

4. That of nitrous and marine acids, obtained from the decomposition of nitre and common salt by vitriolic acid.

5. That of sulphur, burnt with an eighth part of nitre.

6. That of sulphur, burnt with charcoal.

7. That of oxygenated marine acid, obtained by putting manganese to marine acid.

"Having now fully proved that the nitrous, and possibly also the marine acid, obtained in the manner already described, may be employed with perfect safety in hospital and prison wards, whilst the people remain in them, I shall, in the next place, relate how far my experience goes to ascertain the efficacy of those acids in destroying contagion.

"From all the information I can procure, I do not find that any person has ever made use of the nitrous acid to destroy contagion but myself; for, as this acid is not produced by the deflagration of nitre, or of gunpowder, the employment of these cannot be considered as an instance to the contrary. I formerly mentioned that I had employed

the nitrous acid in two different forms; either the vapour arising from the yellow or smoking nitrous acid, which is a mixture of the acid with nitrous gas, or the more pure nitrous acid, detached from nitre, decomposed by the vitriolic acid. In one or other of those forms I have used it, both in hospitals and in private practice, for sixteen or seventeen years past; and have had the satisfaction to obtain the most decisive evidence of its happy effect, in preventing the spreading or further communication of contagion.

"The most highly contagious fevers that occur in our hospitals do not affect the patients in general lodged in the same ward, but only the nurses, or those patients who assist them, or those who lie in the beds contiguous to the sick; to such persons I have frequently seen the fever communicated, and have also repeatedly prevented the farther spreading of the disease, by placing gallipots, with the fuming nitrous acid, between the beds of the sick and those who were not yet infected by the contagion. And, in private practice, I can declare with truth that where the nitrous acid has been constanly used as a fumigation, I have not known an instance of a contagious fever having been communicated, even to a nurse or an attendant.

"These facts will undoubtedly be allowed to be very strong evidence, with respect to the power of the nitrous acid to destroy contagion; still, however, they are liable to some uncertainty, and I will freely confess that the effect of the nitrous acid, for this purpose, cannot be said to be fully proved until it has been tried in fumigating tainted clothes, &c. and until its power has been found sufficient to destroy contagion on board of ships, and in prisons and hospitals, where it exists in a much higher degree than I have had occasion to see it, excepting at Winchester."

The author then concludes this subject with a few practical rules or observations, which may be looked upon as corollaries or inductions, from the preceding experiments.

"The

"The well-known efficacy of the sulphureous acid, in destroying contagion, is a sufficient reason for our continuing to use it as a fumigation for clothes, furniture, &c.

"The nitrous acid, being attended with no risk or inconvenience to the respiration, and appearing, from our experience, of sufficient efficacy to prevent the farther spreading of contagion, seems the proper antidote to be applied in all situations where persons are necessarily present, and is, in short, the *desideratum* sought after by the benevolent Dr. Lind.

"For purifying empty hospital or prison wards, and ships, I should also prefer the nitrous acid to the sulphureous, as I believe it to be equally efficacious; its vapour is more volatile and penetrating, and it does not leave the disagreeable smell which sulphur does. But for this particular object, I think it would be adviseable to make trial also of the marine acid, and of the mixture of nitrous and marine acids, as I am convinced of the efficacy of all the mineral acids for destroying contagion, and our experience is not yet sufficient to determine their relative advantages and disadvantages.

"To obtain the nitrous or marine acid, in a state of vapour, the method is extremely simple. It consists in decomposing nitre, or common salt, by means of heated vitriolic acid, which may be done as follows:

"Put half an ounce* of vitriolic acid into a crucible, or into a glass or china cup, or deep saucer; warm this over a lamp, or in heated sand, adding to it from time to time some nitre or common salt: these vessels should be placed at twenty or thirty feet distance from each other,

* "As the quantity of vapour depends in some measure on the surface, I think it better to have the vitriolic acid put in a number of small vessels than in one or two large ones; besides, in this way it has the advantage of being diffused more readily in any given space."

according to the height of the ceiling, or virulence of the contagion, and should be stirred with glass spatulas. In hospitals or prisons, the lamps or vessels containing heated sand may be placed on the floor; on board of ships, it will be better to hang them to the ceiling by waxed silk cords. The fumigating lamps, which I have seen at Moyser's, in Greek Street, Soho, a great number of which, I was told, have been sold to the navy, may be employed for this purpose; although they would answer much better if the saucer was deeper, and if, instead of a place for a lamp, there was a box proper for containing hot sand, in which the saucer might be placed.

"As fumigating with nitrous acid is attended with no inconvenience, and as the process is so simple, and the materials so cheap, it should, as a means of prevention, be employed for some hours every day in transports, having troops on board, and in crowded hospitals; and if there is any appearance of contagion, the fumigation should be executed with more care and attention, and the vapour confined for several hours at a time. Fumigating vessels or lamps should also be placed contiguous to the hammocks or beds of persons affected with any contagious or putrid distemper, whether fever or dysentery.

"By taking such precautions, a great deal of mischief would probably be prevented, and a stop put, in the beginning, to one of the most fatal calamities that ever afflicted mankind."

Next follows *the experiment made with the nitrous fumigation on board the Union hospital-ship*; the principal circumstances and conclusions which they afford, the author thus details to the Right Hon. Earl Spencer:

"In the first place, my Lord, it must be allowed that the present experiment fully justifies all I have said respecting the safety with which the nitrous acid (procured in the manner described) may be employed as a fumigation. No one

surely can say that I assume too much, when I consider the safety of the fumigation as established, after a trial of nearly three months, for an hour and a half, or two hours, morning and evening each day, on board an hospital-ship, containing from two to three hundred persons of different sexes and ages, and labouring under different diseases; without a single instance of permanent inconvenience or bad consequence arising from it: for the slight cough which it at first excited, and which was evidently owing to the awkwardness and ignorance of those who carried the fumigating pipkins, cannot be looked upon as such; and no farther inconvenience has ever been felt by any one on board.

"Having established then this important fact, that the nitrous acid is attended with no risk to the health or safety of the people exposed to it, let me next claim your Lordship's attention to the sensible and immediate effects of it.

"We are told by Mr. Menzies, that after the first fumigation, and still more remarkably after the second, the air of the hospital was perceived to be purer, and free from any putrid or offensive smell. These two qualities, my Lord, viz. the rendering the atmospheric air purer, and consequently fitter for the purposes of animal life, and the completely destroying the offensive smell resulting from animal effluvia or putrid matter, are of themselves considerable advantages, if no others were to be expected or derived from the fumigation; but they are of still higher importance, when considered as presumptive evidence of the power of the nitrous vapour to destroy contagion; for whatever is found to destroy the smell of putridity, and at the same time to render the air purer, we must suppose more or less conducive to this grand object. But presumptive evidence, on a subject of this importance, in which the lives of thousands are involved, is not sufficient to satisfy the mind; and, happily for mankind, the present experiment, instituted under

under your Lordship's auspices, affords complete and direct evidence of the fact."

The appendix contains several letters from various respectable medical gentlemen of the army, navy, &c. all of which confirm the efficacy of the nitrous vapour in destroying contagion, and announce that it removes the very fœtid and almost intolerable smell occasioned by the discharge from foul spreading ulcers, in the cure of which it is of infinite service, and that it is likely to prove highly beneficial in hooping cough; as may be seen from the following extracts of a letter from Mr. Paterson, surgeon to Forton hospital, addressed to the Commissioners for taking care of sick and wounded seamen, and which was communicated to the author:

"*Case* 1. Jean Louis, French prisoner, of colour, eighteen years of age, from the West Indies, was admitted into the hospital on the 28th of October 1796, for an ill-conditioned ulcer on the inferior and interior part of the right leg. After he had been some time in the hospital, the ulcer began to put on a favourable appearance, and was soon considerably diminished in its size, merely by means of simple dressings.

"On the 29th of November, however, the ulcer, according to the common phrase, became foul; and by next day it had spread to such a degree, that it was nearly as extensive again as it ever had been, attended with very acute pain, and with a very copious, thin, dark-coloured, fœtid discharge. The patient's pulse at this time was 120, tongue clean, appetite impaired, belly open, sleep much disturbed.

"31st. From the 29th to this time a common poultice, thrice a-day, was the only application; but now, in addition to the poultice, the ulcer was dressed with the powder of Peruvian bark; a cooling medicine, with an opiate at bed-time, was ordered; and a vegetable diet with milk was enjoined.

"2d December. The ulcer still more extensive than it

was

was on the 31st ult. It now extended from the tarsus six or seven inches upwards, and from the tibia more than half round the leg: it was still in a sloughing state, with high, reflected edges. The other symptoms much the same as before. Finding that the plan hitherto pursued had not produced any good effect, either on the ulcer, or on the system, the whole of it, excepting the poultice, was abandoned, and the nitrous vapour adopted. The ward in general, and the bed of the patient in particular, were carefully fumigated, the ward once, the bed twice a-day.

"3d. The ulcer had stopt spreading, and in some places looked clean. Such a sudden change was to me astonishing. Pulse now 110; tongue clean; belly open; slept better on the night of the 2d than for some time before, notwithstanding the omission of the opiate.

"4th. The ulcer was clean, and discharged good matter. The patient felt himself comfortable. Pulse about 90.

"6th. The discharge continued to be good; and the ulcer had made considerable progress in healing. The patient felt himself perfectly easy, and his health was already very much mended.

"The fumigation was continued until the 26th of December; from which time, owing to a want of materials, it was discontinued until the 11th of January 1797. The ulcer, during the time the fumigation was used, and even to the 1st of January 1797, continued to heal kindly and rapidly; but at that period it again became foul and sloughing, and was soon as extensive as before. The appetite was again impaired; pulse 120, and small; belly open; the patient much weakened and emaciated. Half a drachm of Peruvian bark thrice a-day, and eight ounces of wine in the twenty-four hours, were ordered; and the ulcer was dressed twice a-day with the powder of Peruvian bark and common poultice. An opiate was occasionally allowed at bed-

bed-time. This treatment was preserved until the 11th, when, having experienced no good effects from it, it was discontinued, and recourse again had to the nitrous vapour and common poultice, as on the 2d of December 1796.

" 12th. The ulcer had stopt spreading, and in some places had begun to clean. The pulse was less frequent, and more full; and the patient was in every respect better and more comfortable. The nitrous vapour, &c. were continued.

" 13th. The ulcer was perfectly clean, with florid granulations, and with about the eighth of an inch of new skin round the edges. The plan was continued.

" 20th. The ulcer looked very healthy, and was contracting rapidly. The plan was continued.

" 5th February. The ulcer had contracted more than one half. The plan was continued.

" 12th March. The ulcer was nearly healed (not so much as the breadth of a sixpence being open,) and looking healthy. On this day I finished my duty, and consequently my observations, at Forton hospital.

" I have here to observe, that about the 1st of January 1797, all the ulcers in the same ward (N° 14) with the above, were more or less in a bad state; and that they all about one and the same time began to put on a favourable appearance; and also that in a short while many of them healed. Likewise it is necessary to observe, that particular attention was paid all along to cleanliness and ventilation.

" *Case* 2. La Granade, French prisoner, aged twenty-six years, from the West Indies, was admitted into the hospital on the 16th of December 1796, for chilblains. In the end of February 1797, an ulcer broke out on his left leg, which became very foul and sloughing, and did not yield to common remedies. On the 7th of the following March the nitrous vapour was used exactly in the same manner

manner as in the preceding case, and by the 12th the ulcer was perfectly clean.

" *Case* 3. Elie Double, French prisoner, aged twenty-two years, from the West Indies, was admitted into the hospital on the 28th of October 1796, for an ulcer on the anterior and middle part of his left leg. By the middle of February 1797, the ulcer was cicatrised, but with a considerable protuberance remaining over that part of the tibia, as if the periosteum and even the bone itself had been in a diseased state. About the end of February the cicatrix became inflamed, soon suppurated, and degenerated into a foul sloughing ulcer, which, instead of yielding to any of the various applications, got worse and worse every day. From the end of February (I cannot exactly tell the day) cataplasms of different kinds, myrrh, and Peruvian bark, were tried externally; and wine, Peruvian bark, opium, &c. were administered internally. At the same time great attention was bestowed in keeping the ward extremely clean, and thoroughly ventilated. Finding not only that no good effect was produced by any of these means, but even that the ulcer, the sound parts being still in a mouldering state, grew more and more extensive, I came to a determination, considering myself sufficiently authorized, from the experience I had had, to make trial in this untoward case of Dr. J. C. Smyth's nitrous vapour. Accordingly, on the 7th of March the fumigation was put in practice, in the same way as in the foregoing cases; and, it is with heart-felt pleasure I relate it, by the 12th, that was in five days time, and on the day I finished my duty at Forton, the ulcer was perfectly clean and healthy.

" *Case* 4. François, a negro French prisoner, age unknown, was admitted into the hospital on the 26th of January 1797, for a wounded little finger. On examining the wound, I found that the last bone and the surrounding ligaments were the parts most materially injured. The bone

was fractured, and the soft parts were contused to a very great degree, with a small lacerated wound at the tip of the finger. Deeming it necessary, I immediately amputated the limb at the joint formed by the second and last phalanges. The stump, the bone being well covered, and the soft parts looking healthy, had all the appearance of doing well during the first fortnight; but, unfortunately, at the expiration of that period it began to put on a very unfavourable aspect. Instead of the diseased parts being sinuous, or having, what is perfectly understood in surgical language, a glassy appearance, which sometimes indicate a diseased bone, they became enlarged to a prodigious degree, reflecting very considerably, so as to resemble a ball on the end of the stump; and, at the same time, appeared foul, discharging a dark, thin, fœtid matter. In this state Peruvian bark, opium, &c. were tried, as also cataplasms, but to no purpose. In the end of February recourse was had to the nitrous vapour; and by means of it, in six days time, the ulcer was perfectly clean.

"*Case* 5. Bastern, a negro French prisoner, age unknown, was admitted into the hospital on the 28th of January 1797, for an ulcerated toe. This case, very similar to the finger of which I have just taken notice, and, like it, after various ineffectual applications, was cleaned, and put seemingly in a healthy state, by means of the nitrous vapour used according to the manner I have already related. The four last cases were in the same ward.

"*Postscript*. The hooping cough, which has been prevailing here all this summer, made its appearance in my family last month; this being a contagious disease, and a change of air having been found useful in removing it, I supposed that the nitrous vapour might not only operate in counteracting the contagion, but also have effects similar to the changing of situation; and hence, that it might, providing the lungs of my little patients could bear it, prove a convenient,

venient, an elegant, and useful remedy, on the present occasion. It was from these conjectures, and knowing that it would have been extremely inconvenient for me to have sent my children from home, that I ventured to make trial of Dr. Smyth's fumigating plan; the result of which I shall state, as briefly as possible, by sketching the following cases:

"My third child, a girl of five years old, was seized with a slight inflammation of the throat, attended with hoarseness, about the 6th of last month; and about the 10th with a cough, on which the inflammation and hoarseness went off: the cough for some days seemed to be of a common kind from cold; but by the 15th it assumed the appearance of hooping cough, accompanied with a slight degree of fever. By this time my second child, a girl of six years, and also my fourth or youngest, a boy of fifteen months, had begun to cough.

"On the 17th, the third child had frequent and violent fits of coughing, with the hoop strongly marked; and the second and fourth, though not so ill, evidently laboured under the disease. In the evening of this day I began the use of the nitrous vapour, I shut up my little patients, with a servant, in their bed-room, sixteen feet by twelve, and six feet nine inches high; myself superintending the business. Instead of a pipkin for holding the hot sand, I used an iron pot, in which were placed two gallipots, containing the concentrated vitriolic acid and nitre, according to the directions of Dr. Smyth. In about five or six minutes the room was filled with vapour, and continued so for an hour, without any of the children coughing or shewing any signs of uneasiness.

"18th, 19th, 20th. The fumigation was repeated every evening, and continued an hour, without coughing or any uneasiness occurring.

"21st. Now all my little patients seemed better, the

fits of coughing recurring less frequently, and the mucus being more easily discharged than before.

" 14th September. From the 20th ult. to this time the fumigation was repeated only six times, exactly in the same manner as before, without the children complaining of, or apparently feeling any disagreeable effect from it; and now, on account of the mildness of the disease, the cough not being troublesome even in the night, it was discontinued. At this time the youngest child evidently laboured under symptoms of teething; the cough, however, did not appear in the least aggravated. To the second and third child, during the course of the nitrous vapour, no other medicine was given; but to the youngest, who was frequently constipated, a weak solution of Antimon. tart. which always operated downwards, and sometimes upwards, was occasionally administered.

" 23d. The second and third child continue well; and the youngest, though much distressed with teething, coughs but seldom, and very gentle.

" Now, after having stated these facts, whether or not the nitrous vapour had any effect in counteracting the contagion, or otherwise rendering the disease mild, and of short duration; or whether or not the disease would have naturally appeared mild, and have continued but a short time, without the interference of art, are points which I shall not take upon me to determine. Further trials are undoubtedly necessary for the purpose of forming a judgment.

" It must be confessed, however, that even the few trials which have already been made, serve, in the mean time, a very useful purpose; they clearly shew that even young children, labouring under a disease in which there is always more or less a determination to the lungs, &c. are capable of inspiring the nitrous vapour without feeling from it any disagreeable effects: hence there cannot, I presume, be

any

any objections to further trials of it being made in the hooping cough. Also, these facts lead naturally to other important inferences; but as they must be to you sufficiently obvious, I avoid making them."

Before we close this article, it will be proper to point out a mistake of the author, respecting the power of *nitrous acid vapour to destroy the miasma of small-pox*. At p. 221 Dr. Smyth says, "I have been told by Dr. Rollo, surgeon to the artillery, and Mr. Cruickshank, professor royal of chemistry to the Academy, that it destroys the *miasma* of the small-pox; and that of two quantities of matter taken for the purpose of inoculation, one was exposed to the nitrous vapour, the other not: the persons inoculated with the first were not seized with the disease, whilst the inoculation took the usual effect when performed with the second." But this supposed communication from Mr. C. appears to have been totally misunderstood, and is contradicted in the Philosophical Magazine, vol. iii. p. 396: Mr. C. there remarks that he "had made no trials" with *this gas* on small-pox matter, and that he only "mentioned the experiments" *(with muriatic acid)* "related in the first edition of Dr. Rollo's Treatise on Diabetes." E. T.

ART. IV. *The Physician's Vade Mecum; being a Compendium of Nosology and Therapeutics, for the Use of Students.* By the Rev. JOSEPH TOWNSEND, Rector of Pewsey, Wilts. Fifth Edition. Small octavo. pp. 148. SYMONDS, London. 1799. Price 4*s*.

IN the nosological part of this elementary publication, the author professes to have chiefly followed the system and genera of the celebrated Cullen. For the compendium of therapeutics, and the formulæ, he has been indebted principally to Drs. Duncan, Whytte, Cullen, Elliot, Berken-

hout, and Nankivell. Besides an index and an explanation of technical terms, a concise nosological table, with a list of the names adopted in the late editions of the London Pharmacopœia, are subjoined for the use of medical students. The number of impressions through which this little work has passed in a short time, bespeak its general acceptance; and it appears to us not unworthy the attention of learners. X.

ART. V. *A Detection of the Fallacy of Dr. Hull's Defence of the Cæsarean Operation.* By W. SIMMONS, Member of the Corporation of Surgeons in London, and Senior Surgeon to the Manchester Infirmary. Octavo. pp. 103. VERNOR and HOOD, London. 1799. Price 2*s.* 6*d.*

WE are sorry to observe that the controversy between Dr. Hull and Mr. Simmons is carried on with so much asperity. Mr. S. has, in the present pamphlet, employed a degree of personal abuse which is by no means commendable, and sarcasm which is not always apt or correct: *e. g.* Speaking of Dr. Hull's quotations, page 5, he says, "with the cruelty of a *Cæsarean operator*, he *dismembers* the unhappy writers that fall into his hands, while their *mutilated fragments* serve no other purpose than to swell his work, and prevent the reader from discovering the scantiness of his materials."—Perhaps medical men in general do not know that *dismembering* is a part of the Cæsarean operation.

We cannot perceive that Mr. S. has thrown much light on the subject he has discussed; nor that the introduction of five pages from Tristram Shandy, for the sole purpose of ridiculing Dr. Hull, adds any thing to the merit of his performance. O.

ART.

ART. VI. *Medicinæ Praxeos Compendium: Symptomata, Causas, Diagnosin, Prognosin, et Medendi Rationem exhibens.* Auctore EDVARDO GOODMAN CLARKE, M. D. &c. 12mo. pp. 214. Londini, JOHNSON. 1799. Price 5s.

A VERY compendious and useful publication; in which the reader will find the symptoms, causes, diagnosis, prognosis, and method of cure of diseases, succinctly enumerated, and the whole digested after the *Nosologia Methodica* of Cullen. Had it, however, been written in the English language, it would have been more acceptable to the generality of medical students. G.

ART. VII. *Essai d'un Systéme Chimique de la Science de l'Homme. Par* J. B. T. BAUMES: *à Nismes, chez* GUIBERT. 8vo. pp. 101. L'an VI. *i. e.* 1798.

WHEN we reflect on the multiplicity of new facts with which modern chemistry has enriched the physiology and pathology of animals, particularly of man, and the dispersed or scattered state in which these facts at present exist, we must acknowledge that a systematic arrangement of them is a most desirable object. It is by no means easy for any man to collect all the periodical publications in which the papers relating to such a subject are to be found; nor, indeed, can the majority of medical men afford the expense of such a collection, if it could be made: it was, therefore, with unfeigned pleasure that we read the title of this essay, which seemed to promise a general view of every thing interesting which related to the chemical physiology and pathology of man. That we have been much disappointed, we cannot conceal; and we feel ourselves forced to state, that we are afraid this first essay will not act as an incentive to other medical men; but will rather discourage them from attempting

attempting any thing of the same kind, inasmuch as it must inevitably be exposed to much censure, if it follow the same method.

The whole work is divided into three sections; on the physiological, pathological, and pharmaceutical chemistry.

Physiological Chemistry.—The constituent parts of vegetables, which are generally found in double and triple combinations, are always in quadruple, or even a more multiplied combination, in the solid and fluid parts of animals. They are to be considered as oxyds of carbonated and azotized hydrogen (oxydes d'hydrogène carboné et azoté.) In a fluid state they form serum, album ovi, lymph, fat, &c. and in a solid state, skin, muscle, intestine, various viscera, and bones!! After death, if they have not any communication with the air, they are changed into a fatty substance, which Fourcroy calls *adipocire*, and which is a slightly oxydated hydro-carbon, which, with ammoniac, has formed a kind of soap. In the living animal their elements are combined, and are decomposed in a peculiar manner; and in this way produce the phenomena of life. Putrefaction simplifies the union of these elements, and brings them back to double combinations; as is proved by the production of ammonia and carbonic acid. Life then consists in the preventing this reduction, and in the maintenance of the more complex combinations. The fibre, which is the most azotized substance, is the seat of irritability; the cause of which Girtanner has supposed to be oxygen, and Gaillard phosphorus.

In the author's account of respiration, the production of heat, the functions of the skin, digestion, animalization, sanguification, and nourishment—and in his inquiry into the composition of the various parts of animals, such as milk, fat, bile, semen, lymph, gastric liquor, saliva, the tears, &c.—there is nothing new. He has merely compiled from his countrymen, and from some of the learned of other countries. We shall therefore proceed to lay before

our

our readers an abstract of the second and third part of his work.

In the second part, or pathological chemistry, he divides diseases into five classes.

1. *Diseases of Oxygenation* (les Oxigenèses.)—In these the oxygen is either superabundant, or deficient. To the former (les suroxigénèses) belong all inflammations. These arise from cold, in this manner: the air is greatly condensed by cold; and consequently, during each act of inspiration, more oxygen is taken into the lungs than in temperate, or warm weather. As proofs of the validity of the hypothesis, the author mentions, that the blood of animals, which are made to breathe pure oxygen gas, coagulates much sooner than that of animals which alone breathe common air; and in several patients to whom it was administered, that fluid, the blood, exhibited signs of inflammation. Catarrh differs from inflammation only in degree; and, therefore, oxygenated muriatic acid gas occasions cough and catarrh. The maximum of combustion, or inflammation, is when the part is too greatly oxygenated, that is, when the inflammation passes to gangrene. Spasmodic affections greatly resemble inflammation. There are weaker degrees of suroxygenation: but what appears singular is, the opinion of the author, that chronic spasms belong to the diseases of disoxygenation, and diabetes to those of suroxygenation.

In atonic complaints particular acids and oxyds are formed, which become true morbid causes. According to Bonhomme, the rickets arise partly from the generation of an acid, which is similar to the oxalic acid, partly from the deficiency of phosphoric acid in the bones. Phosphat of lime, and phosphat of natron, are therefore the true specifics for this disorder. In scrophula there is a superoxygenation, and in scurvy a disoxygenation of the serum. In chlorosis there is a tendency to acidification in the stomach and secreting vessels.

2. *Diseases of Calorification* (les Calorinèses.)—All active hæmorrhagies, congestions, and ebullitions, belong to the diseases called by the author surcalorinèses; the diseases of debility to the descalorinèses.

3. *Diseases of Hydrogenisation* (les Hydrogenèses.)—To this belong almost all autumnal complaints, bilious fevers, and intermittents; for the proportion of oxygen in the atmosphere is diminished by the co-operation of heat and azote. The carbonic acid is evolved in smaller quantity from the lungs in warm than in cold weather. The unhealthiness of marshy ground arises from hydro-carbonic acid gas; therefore hydro-carbon is accumulated in the system, and it shews itself in an overflow of bile. This is the reason why the liver is affected in all diseases of warm climates. According to the opinion of Dr. Beddoes, a mixture of hydrogen gas with atmospherical air is a soft anodyne. Hydro-carbonate, mixed with common air, in the proportion of $\frac{1}{10}$ to $\frac{1}{4}$, occasioned giddiness and fainting. *Flatus*, which is either carbonated hydrogen gas, or sulphurated hydrogen, operates in the same manner in the intestines of people who have great nervous sensibility. In these diseases the heat augments to an uncommon degree, because the blood passes much sooner to the state of venous blood, on account of the great quantity of hydro-carbon with which the human body is loaded.

Agreeably to these premises, the author attempts an explanation of the principal phenomena of fever, and its periodical returns.

Diseases of Azotefaction (les Azoténèses.)—A superabundance of azote in the system gives birth to putrid diseases. Deficient azotisation is similar in its effects to the atonic superoxygenation. The author thinks, that azotic gas has the power of dissolving miasma: that superazotisation is the effect of fever, with this difference, that in inflammatory fevers it does not occur until the end of the fever, but

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in those of a putrid nature it occurs sooner, and in a greater degree. He is also of opinion, that children have very little disposition to putrid diseases, because they contain little azote. But he here seems to forget, that the confluent small-pox and the putrid sore-throat, and aphthæ with putrid symptoms, are frequent diseases of children. The indications of cure in this disease are to oxygenate the human frame.

5. *Diseases of Phosphorisation* (les Phosphorenèses.)—To this class belong, according to the author, ossification of soft parts, and rickets. The first arises when the phosphat of lime is deposited in soft parts, and the second from the deficiency of the phosphat of lime. Woolaston found that gouty depositions were formed of lithic acid and natron; a discovery which Hermstadt had also in part made.

From this view of the subject, our readers will easily be able to judge of the spirit with which the whole work is conducted. The Therapeutico-pharmaceutical Chemistry concludes the whole. From this part we shall extract a few sketches.

1. *Oxygenating Medicines.*—All these are disoxygenated in the human frame, but with this difference, that some lose their oxygen more quickly than others. In this way the oxyds of iron and quicksilver operate on our internal viscera, and those of lead and silver on our internal surface. The acids also lose their oxygen in the system; and to this cause are to be referred their various medicinal properties. Vegetable diet suroxygenates, and animal food disoxygenates, the body. Spalding observed, that he consumed the air of the diving-bell much sooner after animal, than after vegetable food.

2. *Hydrogenating Medicines.*—Moist atmosphere, bodily rest, fish, fat meat, eggs, and hydro-sulphurs, load the body with hydrogen.

3. *Azotinating Medicines.*—The principal remedies of this

class are animal food, and all disoxygenating remedies. The disazotinating remedies are vegetable diet and suroxygenating medicines.

4. *Phosphorating Remedies.*—These are phosphorus, and phosphoric acid, phosphat of lime, and phosphat of natron.

(Vide *Reil's Archive fur die Physiologie.)*

J. I.

ART. VIII. BEDDOES's *Contributions to Medical Knowledge.*

(Continued from page 397.)

MR. DAVY's second essay is entitled, *An Essay on the Generation of Phosoxygen or Oxygen Gas, and on the Causes of the Colours of organic Beings.*

The first set of experiments merely confirm what has been proved by the experiments of Ingenhousz and Sennebier; that the vegetable kingdom is the instrument by which nature corrects the impurity of the air, and that this effect is produced by vegetables decomposing carbonic acid and water.

In order to discover whether phosoxygen was given out by sea-plants, Mr. D. instituted a number of experiments, by which it appears that the *fuci* produce phosoxygen during the presence of solar light. Various other marine cryptogamia secrete nitrogen as well as oxygen. A few of the experiments, proving these points, we shall extract.

" *Experiment* 7.—Into a green glass globe containing a hundred and four cubic inches, filled with sea water previously well boiled to expel the atmospheric air, I inserted two cubic inches of fucus fibrosus. The globe was inserted in a vessel of boiled water, and exposed to a bright sunshine. Soon after its exposure the fucus became covered with a vast number of globules of air, which raised it to the top of the globe, and then detached themselves to form

larger globules. In about four hours sufficient gas was formed to ascertain the quantity and quality of it. It measured two cubic inches and a quarter: the mercury in the barometer standing at 30 inches, and the thermometer at 54°. By trial with azotic phosoxyd, it proved to be $\frac{71}{100}$ phosoxygen, and $\frac{29}{100}$ azote.

"The globe being exposed the next day for six hours in a very bright sunshine, three cubic inches were formed, about $\frac{76}{100}$ phosoxygen, and $\frac{24}{100}$ azote.

"The day after, the globe was exposed for nine hours and half of moderate weather; three cubic inches and half were formed, of nearly the same quality as the last.

"On the fourth day of this experiment, the sun shone very bright for five hours; two cubic inches were formed, $\frac{18}{100}$ azote, and $\frac{82}{100}$ phosoxygen.

"All the gas in this experiment which was not diminished by azotic phosoxyd, was put into a vessel, and when examined, proved to be two thirds nitrogen, and one third carbonic acid.

"From this experiment it appears that the fuci produce phosoxygen during the presence of the solar light. The nitrogen produced in this experiment most probably arose from a small portion of atmospheric air, which water still holds in solution, though boiled.

"*Experiment* 8.—Two cubic inches of ulva dichotoma were inserted into the globe containing one hundred and four cubic inches, filled with water previously boiled. It was inserted in a jar containing water of a similar kind. This globe was exposed for four days successively to the solar light. On the first day, in eight hours of sunshine, three cubic inches and half of gas were formed, $\frac{70}{100}$ phosoxygen, and $\frac{30}{100}$ azote.

"On the second day, when the sunshine was uncommonly bright, in six hours two cubic inches and half were formed of $\frac{77}{100}$ phosoxygen, and $\frac{23}{100}$ azote.

"The

"The third day was showery, and the sun often obscured; in nine hours but two cubic inches and quarter were formed, containing $\frac{76}{100}$ phosoxygen.

"The sun was out and very bright continually for seven hours on the fourth day; two cubic inches and half were formed, $\frac{83}{100}$ phosoxygen, and $\frac{17}{100}$ azote.

"*Experiment* 9.—Into the green glass globe of a hundred and four cubic inches, filled with boiled sea water, two cubic inches of conserva littoralis were inserted, and the same precautions being taken as in the last experiment, the globe was exposed to the solar light for four hours; in this time five cubic inches of gas were formed, of the quality of 76."

To prevent unnecessary repetitions, the author expresses the quality of gases by giving the quantity of phosoxygen in a hundred parts, from whence the quantity of azote will be known.

"The next day the globe was exposed for seven hours of sunshine, and six cubic inches were formed, of the quality of 78.

"The day after, the globe was again exposed for eight hours; five cubic inches were formed, of the quality of 81.

"On the fourth day, the weather in the morning was cloudy; but in the afternoon, the sky brightening, it was exposed for three hours and half, and in this time two cubic inches were formed, about 86.

"The gas produced in this experiment, unalterable by nitric phosoxyd, was chiefly nitrogen.

"During the whole course of these experiments I perceived no sensible difference in the production of gas corresponding to difference of temperature.

"From these experiments, it is evident that the different orders of the marine cryptogamia are capable of decomposing water, assisted by the attraction of light for oxygen.

"I dis-

" I discovered by analysing the sea-weeds, that they were composed chiefly of hydrogen, carbon, and nitrogen.

" As carbon is incapable of solution in water, it is evident that the sea-weeds must obtain it from the decomposition of some of its combinations. I found that sea-weeds, placed in water saturated with carbonic acid, produced no alteration in it in the dark for some days, except that of disengaging portions of dissolved carbonic acid."

Having established these points, Mr. D. enters into a disquisition concerning the colouring principle of various substances; which principle, in many instances, he considers to be light. To us this part of his essay appears extremely unsatisfactory, as his opinion is more founded on assertion than on unequivocal experiments. He says, " the light entering into the composition of vegetables appears not only to be the principle on which their irritability more peculiarly depends, but likewise to be the principle to which they, as well as all substances, chiefly owe the differences of their colours. We do not assert that light is the general colouring principle; this would be absurd in the present state of our knowledge. We shall attempt to demonstrate that many vivid colours depend on combined light.

" Almost all the simple substances, and the combinations of the simple substances that contain no light, are either pellucid, white, or black. Among these are the gases, water, alcohol, the acids, the alkalies, the pure earths, phosphorus, sulphur, when in its pure state and uncombined with light, carbon, and the different metallic substances which in general are either white, or black and white, that is, grey. Copper, which is yellow, appears to contain light, and probably some other metals.

" The compounds into which oxygen enters, and which contain no light, as oxyds, acids, &c. are likewise generally either transparent, white, or black; transparent, as the simple acids and some of the oxyds; white, as the oxyds

oxyds of lead, zinc, and antimony; black, as the oxyd of iron.

"The inorganic compounds containing phosoxygen are almost all of vivid colours; and these colours appear to be in some measure correspondent to the quantities of light entering into their composition. A small quantity of light combined with oxygen and metallic bodies renders them either brown, as the argentic and ferric phosoxyds, or purple, as the auric phosoxyd. Bodies containing a larger proportion are either green, as the cupric phosoxyd, or yellow, as the tungstic phosoxyd. The phosoxyds containing a still larger portion of light are bright red, as the plumbic and mercuric phosoxyds. The chromic phosacid, as was observed in the last essay, likewise owes its colour to combined light."

The author excepts copper from the class of simple metallic substances, and suspects it to contain light, probably because it is yellow. We should be glad to know what he thinks of bismuth or nickel, neither of which are pellucid, white, black, nor grey.

That the colours of vegetables are owing to light, has long been a favourite hypothesis. We lament exceedingly that the author of the essay should have been ignorant of the beautifully contrived and well-executed experiments of Von Humboldt on the same subject.

What seems new to us in this part of his essay, is his assertions that zoophyta and fish appear to depend on light for their colours. We shall give this part in his own language, and add his speculations on the colours of birds and quadrupeds.

"I have observed that the zoophyta exposed to light are uniformly brighter coloured than those which have been by any means secluded from it, and I succeeded in altering the colours of two sea anemones from a dark red to a pale pink, by secluding them from light.

"The

" The parts of fish which are exposed to light, as the back fins, &c. are uniformly coloured red, brown, green, yellow, blue, &c. in different fishes; but the belly, which is deprived of light, is uniformly found white in all of them.

" Rational analogy alone would induce us to suppose that the colours of land animals depend upon the same causes. Independent of this, we have facts and experiments sufficient to establish this truth.

" The birds that inhabit the tropical countries are much brighter coloured than those of the north. Those parts of birds which are not exposed to light are uniformly pale. The feathers on the bellies of birds are generally pale or white; the back, which is exposed to light, is almost always coloured; the breast, which is partially exposed in most birds, is brighter than the belly, and paler than the back. Those parts of the same feather which are exposed to light, are uniformly bright coloured when compared with those parts that are deprived of its influence.

" The colours of quadrupeds depend on similar circumstances. The beasts of the equatorial countries are uniformly brighter coloured than those of the polar countries. The hair on the parts of beasts not exposed to light is uniformly paler than that covering the parts exposed to its influence; and it affords a striking proof of the truth of this theory, that some of the northern animals are dark coloured in summer, and white or pale in winter.

" The human being is equally dependent for its colour on the influence of light.

" The colour of the skin depends on the colour of the rete mucosum. This is white in the people that inhabit the north of Europe, copper-coloured in the American, and black in the negro. The cuticle, which is of the same colour, and equally pellucid in the different species of mankind, appears to contain no oxygen or light, and is most probably composed of carbon, hydrogen, and ni-

trogen. The rete mucosum is probably composed of carbon, oxygen, hydrogen, and nitrogen. The comparative quantities of carbon and oxygen in it, appear to occasion the differences of its colours. These quantities depend on the quantity of oxygen attracted from it by light.

"Light acting on the rete mucosum of the African is continually subtracting oxygen, the principle to which its whiteness is owing. When the oxygen is subtracted, the carbon becomes the predominant principle, and hence that blackness peculiar to the negroes and the inhabitants of the torrid zone. In the Americans, the inhabitants of Asia, and the southern Europeans, the colour varies from dark copper colour to pale tawny. These people are less exposed to light than the negroes, consequently their skin contains a larger proportion of oxygen. The inhabitants of the northern countries, who are still less exposed to light, are white: their rete mucosum contains its full proportion of oxygen.

"In Europeans, we find the parts of the body exposed to light darker coloured than those that are covered. Women, who are less exposed to light, are fairer than men.

"A subtraction of oxygen from the rete mucosum by any means uniformly blackens it. The application of sulphur of potash blackens the skin almost instantly, as I have found by experiment. By combining with oxygen the rete mucosum is uniformly whitened. Dr. Beddoes whitened the fingers of a negro by muriatic phosacid, which appears capable of giving out a small portion of oxygen, and of still retaining all the light entering into its composition.

"The different colours of different parts of the organic matter of the body depend chiefly on the light and oxygen entering into their composition. The red muscles," Mr. D. observes, "are phosoxydated compounds, and probably owe their colour to the light entering into their composition. From the white colour of the nerves, and their office of conducting,

ducting, and being excited into sensible action by condensed light, we may conclude that they contain no light in their composition. The arterial blood owes its fine colour to the light and oxygen entering into its composition; the venous blood is black from a deficiency of light and oxygen, and a superabundance of carbon.

"The colours of the cheeks depend on the number of blood-vessels in the cutis, the quantity of blood circulating through them, the colour and thickness of the rete mucosum, and the thickness of the epidermis. Hence those people who have a thin epidermis, a white rete mucosum, and a number of blood-vessels in the cutis, have very rosy cheeks. When the veins on the surface of the cutis are more numerous than the arteries, the colour of the cheeks will approach more to dark red or purple; when, on the contrary, the arteries are more in number than the veins, the colour will approach nearer to fine vermilion, which is the hue of health.

"Whatever increases the general action of the arterial system reddens the colour of the cheeks: general stimuli produce this effect. Certain passions of the mind more peculiarly occasion an increased action of the vessels of the skin of the cheeks.

"Though the differences of the colour of the skin in different nations must have originally depended entirely on the chemical influence of light; yet when these colours are once produced, their changes are in some measure dependent on the mind. When certain colours are considered as beautiful, *imagination makes them hereditary*, and the chemical changes from the influence of light are more slowly produced. Thus Europeans, though exposed to light in the African countries, do not become black, but in a great length of time; and negroes, though deprived of light, their accustomed oxygen attractor, are not blanched for many generations."

The editor himself next appears before us in the list of

authors who have contributed to this volume: his paper is entitled, "*Specimen of an Arrangement of Bodies according to their Principles.*" As it will be impossible for our readers to understand either the remarks of Dr. Beddoes, or our observations on his Specimen, without the assistance of the table, we must take the liberty of copying it.

SPECIMEN.

CLASS I. LIGHT.
CLASS II. OXYGEN.
CLASS III. PHILOXYGENA.
CLASS IV. MISOXYGENA.

N. B. Philoxygena are ss. combinable with oxygen, or with phosoxygen, or with both; *i. e.* combustible; oxydable; acidifiable.

Misoxygena are ss. uncombinable with oxygen, or with phosoxygen; *i. e.* non-oxydable; non-acidifiable; incombustible.

I. LIGHT.
Electric fluid.
Galvanic fluid.

II. OXYGEN.
ox. with light;
i. e. phosoxygen.

III. 1. HYDROGEN.
Hyd. with oxygen;
i. e. water.

2. AZOTE.
Az. with phosoxygen;
i. e. atmosph. air,
or gazeous oxyd,
or nitrous air,
or nitrous acid,
or nitric acid.
Az. with hydrogen;
i. e. ammonia.

3. CARBON.
(qu. *Azote with hydrogen?*)
C. with oxyg.
i. e. carbonic acid.
C. with hydrogen;
i. e. carbonated hydrogen,
or alcohol,
or æther,
or oils.

4. SULPHUR.
(qu. *composition?*)
S. with oxygen;
i. e. sulphureous or sulphuric acids.
S. with oxygen and phosoxygen,
i. e. phosoxygenated sulphuric acid?

5. PHOSPHORUS.
(qu. *composition?*)
Ph. with oxygen;
i. e. phosphoreous or phosphoric acids.
Ph. with hydrogen;
i. e. phosphorated hydrogen.
Ph. with oils,
&c. &c.

6. MURIATIC RADICAL
(qu. *hydro-azote?*)
with oxygen
i. e. muriatic acid.
with phosoxygen
i. e. phosoxygenated muriatic acid.

7. HYDRO-CARBON
(hydro-carb.-azote?)
with oxygen;
i. e. acetous
pinguedinous,
tartarous,
oxalic,
&c. &c. acids.
qu. *does not hydro-carbon, as a compound base, always expel light?*

7. Platina.
8. Gold.
combinable only with phosoxygen?
9. Silver.
10. Quicksilver.
11. Lead.
12. Manganese.
combinable with oxygen and phosoxygen.
13. Copper.
14. Iron.
&c. &c. &c.
qu. *as to the oxydation or phosoxydation (or both) of other metals?*

} Metallic ss. that is, compounds of hydrogene and azote.

IV. 1. Barytes.
2. Strontites.
3. Potash.
4. Soda.
5. Lime.
6. Magnesia.
7. Alumine.
8. Jargonites.
9. Silex.
&c. &c.

} Alkalis.

} Does the mode of union of their elements render them non-oxydable? or have they already oxygen or phosoxygen closely combined?

It

It is scarcely possible to suppose that at the present day, when the principles of systematic arrangement are tolerably well understood and agreed upon, an arrangement of natural substances should be attempted upon such vague and hypothetical grounds as that which is here offered to the public. Lavoisier and his adherents, although forced by the evident as well as the probable truth of most of their discoveries and experiments, to change the ancient nomenclature of chemistry and give such denominations to substances as they judged to be expressive of their chemical properties, were yet far from attempting any other arrangement than what their own experience in a great degree justified and the study of modern chemistry demanded; for it is to be observed, that one of the principal objects, if not the principal object itself, of all systematic arrangements is to facilitate the study of the science to which it belongs.

As objects of chemistry, these philosophers arranged all the more simple bodies under five classes.

The *first* comprehended a number of elementary substances, which have no other property in common with each other than the simplicity of their nature, which causes them to resist all further analysis. Their *second* class included all substances, except metallic ones, which are acidifiable. The *third* comprehended the metals; the *fourth*, the earths; and the *fifth*, the alkalies. The compound substances were placed apart, and derive their denominations from the union of the names of the simple substances of which they were composed.

It is true that in this arrangement many substances are classed together, which are very different in their general qualities; thus light, oxygen, hydrogen, and nitrogen, are comprehended in the first class: but no substances which have not been put to the test of experiment, no crude conjectures in support of which there is not a single fact

to

to be alledged, no unfounded assertions, obtrude themselves in their catalogue.

The arrangement of Dr. Beddoes, on the contrary, not only has the fault to which the first class of the Lavoiserian arrangement is exposed, but likewise all the others from which we have exempted it in the preceding paragraph.

Under his third class he comprehends hydrogen, azote, carbon, sulphur, phosphorus, muriatic radical hydro-carbon, oils, various acids, and the metals. The fourth class is, if possible, still more unsystematic; for under it Dr. B. comprehends substances which are in every respect different from each other, as the alkalies and silex; and what is more unaccountable is his uniting in this class the simple earths with compound stones, such as lime, barytes, and alumine, with the jargonites.

To shew the unsettled opinion of the author of this paper concerning many of the substances which he has classed according to their *elements* or *affinities*, we have only to notice the numerous marks of interrogation which abound in it; but what cannot fail to be highly censured, is his deciding on the composition of substances, concerning the ingredients or elements of which we are as yet entirely in the dark!! Upon what authority, upon what experiments, can Dr. Beddoes justify his arranging the galvanic fluid under light?—It cannot be to his friend Mr. Davy that he is indebted for the knowledge that this fluid contains light; for that young man merely offers it as a conjecture that the nerves have a power of secreting light, and that light is the nervous fluid.

Upon the same principle we would condemn the hasty conclusion, that metals were compound substances made up of hydrogen and azote.

The expression *sound philosophy* is frequently to be met with in the language of Dr. Beddoes. He uses it both as

a shield

a shield and an instrument of attack. For the sake of the public, his own sake, and ours, we wish he would pay a little more respect to its rigid principles and rules.

Next occur "*Cases of gonorrhœa treated with muriate of quicksilver.*"

This is a very interesting paper in regard to practice, and highly deserving the attention of surgeons. The remedy which Mr. Addington, the author of the essay, recommends, although a well-known one, has never, to the best of our knowledge, been exhibited in a similar manner for the cure of gonorrhœa. The dose which is to be exhibited struck us with great surprise when we first read the account of it. The author himself, indeed, who administered it, says that he shrunk with fear when it was first proposed to him; but the urgent desire of the patient, who is the subject of the first case, got the better of his reluctance. This person assured Mr. Addington that it had been administered to hundreds in America, and always with success. He had been a soldier during the American war, and had himself witnessed what he asserted.

We transcribe the first case, as it not only contains a full account of this heroic medicine, but also its dose and effects.

"Joseph M——, aged thirty-five, a healthy mechanic, came under my care on the 14th of August, with a gonorrhœa, which, soon after its commencement, was marked by the usual symptoms of inflammation of the urethra, and swelling of the lips of its orifice, copious discharges, heat of urine, chordee, painful erections of the penis, &c. &c. in that degree which commonly obtains for the disease the epithet of virulent. The usual mild, mucilaginous, and laxative medicines were prescribed and regularly taken for some time; and in the mean while, the man being very desirous of a speedy cure, was extremely careful to avoid any irregularities in diet or modes of living which might impede his recovery. No material advantage, however, was

obtained

obtained by all the care that could be taken. Mild injections, as of tepid milk and water, and very weak solutions of lead, and frequent immersions of the penis in these liquids, were employed in their turn to no better purpose. Every means that could be devised was adopted for rendering the urine mild by larger dilution, and as I suspected that the patient's sufferings on this score might be augmented by a peculiar disposition to the formation of acid in his stomach, affecting him with almost continual heartburn, he drank daily a considerable quantity of aerated alkaline water, which assisted somewhat in the mitigation of them.—But, in spite of every effort, the disease continued in a state of painful activity, and after a few weeks the patient's stomach was disposed to reject every medicine. Things were in this state at the end of two months, when the man requested my permission to take a medicine which an old acquaintance had recommended to him, and which was said to have cured *hundreds of patients* in this disease. He was promised that it should cure him by taking only *two or three doses in the course of a week or ten days.* Its mode of operation was described to him in the following manner: —that upon taking it at bed-time, it would, in the course of a few minutes, excite a great burning in his throat and stomach, and presently produce a very copious spitting, to the quantity, as was asserted, '*of half a chamber-pot full.*' Upon looking at the recipe, which he brought me in order that I might prepare it, I was startled, and expressed my apprehension that it could not be administered with safety; but the eagerness of the man to obtain a cure, and his confidence in the report of his friend, prevailed over both his fears and mine, and I made up the medicine according to the following formula:

Take of

Corrosive sublimate of mercury, 3 grains,
Rectified spirit of wine, 1 ounce.—Mix.

" Half

" Half of this solution was to be taken at bed-time. On the morning of the second following day he was ordered to take an ounce of Glauber's salts, and in a day or two more to repeat the draughts, and afterwards the salts as before; these it was expected would be sufficient to complete the cure; if otherwise, the medicine was to be repeated at the same intervals, with a dose of the salts betwixt every draught, till it was effected.

" He took the first dose, viz. one grain and half of the muriate in half an ounce of rectified spirit, undiluted, Oct. 14, at going to bed. Its immediate operation on the fauces and stomach was exactly what he had been led to expect—a copious salivation was quickly raised, and lasted from an hour and half to two hours, during which time he said he spat more than a quart. The remainder of the night he passed as well or better than usual, and neither then nor afterwards felt any sort of inconvenience from the medicine. On the next day his complaint was very much relieved. The pain, soreness, heat of urine, and discharge, were all lessened considerably. In the morning following, viz. the 16th, he took the salts dissolved in gruel, and in the evening of the 17th repeated the draughts with the same effect as before, and with equal proportionate benefit. The disease, though not altogether subdued by these two doses, was yet so much lessened as to give little or no trouble. However, wishing to be thoroughly rid of it as soon as possible, the man was desirous of taking on the medicine till it should be perfectly eradicated; and accordingly took four draughts more, viz. on the 21st, 26th, 29th, and once afterwards, but on what day I do not know. To me it appeared that the two last doses, if not three, were altogether unnecessary, the disease being then reduced to a mere gleet, which from the severity and long continuance of the inflammation might be expected to remain after every

active symptom had disappeared: from this time, however, the man remained perfectly well."

The histories of ten other cases of cure effected by the same remedy are contained in this paper, and also two more in which it did not succeed so well.

The next paper contains *a case of mortification of the toes and foot*, communicated by Mr. Kentish, surgeon at Newcastle-upon-Tyne. This is a well-written history, and a very interesting one in point of practice.

The case is that kind of mortification of the toes described by Mr. Pott, and by older systematic writers called the *gangræna senilis*. The cure was attempted for three months by following the plan laid down by Mr. Pott; that is, by exhibiting large doses of opium and bark. The disease increased, and the pain, ulceration, and gangrene spread. Mr. Kentish was then dismissed, and a quack ointment tried for six months, during which the metatarsal bones became exposed, and several phalanges were removed. At length Mr. K. was requested to take off the leg, as the only chance of saving the patient. The operation was performed above the knee, and it was then discovered that the femoral artery was greatly ossified. The arteries of the leg were also in the same ossified state. In about a fortnight all the ligatures came away except that of the femoral artery, but pain and tension soon ensued, and an abscess was formed. Every thing was done to promote the discharge, but the whole stump became so much inflamed as to threaten sphacelus. It is here that Mr. K.'s merit as a judicious and reflecting practitioner shines. He had had plenty of experience to convince him that Mr. Pott's method of cure was generally an unsuccessful one. He thought that ossification of the arteries most probably arose from too great action of these vessels, and therefore concluded that by diminishing this activity he would probably remove the mischief. He

accord-

accordingly ordered eight ounces of blood to be taken from his patient "every week for six weeks," and was gratified by finding his expectations answered. Topical bleeding and purging were also had recourse to. By these means the inflammation subsided, and the stump healed. H. L.

(To be concluded in August.)

ART. IX. *A Table of Symptoms, pointing out such as distinguish one Disease from another, as well as those which shew the Degree of Danger in each Disease: with Observations on the excessive Indulgence of Children; particularly intended to shew its injurious Effects on their Health, and the Difficulties it occasions in their Treatment during Sickness.* By JAMES PARKINSON.

WE had occasion, in our last number (page 332,) to notice Mr. Parkinson's "MEDICAL ADMONITIONS." The present publication is to be regarded as an APPENDIX to that work; the "Table of Symptoms" belonging to the *first* volume, and the "Observations on the excessive Indulgence of Children" to the *second*.

"It is by an attention to symptoms," our author observes, "that the physician is enabled to steer his course with confidence and safety, and to discover the dangers which threaten. By a reference to the table, and by examining the symptoms most prominent at the commencement of disease, domestic practitioners, therefore, may more readily detect the disease which they wish to remove; and will be then better able to determine, as to the propriety of taking the task of curing it on themselves. If this be resolved on, a reference to the table may also serve to shew the degree of danger which is marked by any particular symptom, which may arise in the progress of the disorder, and which calls for very powerful assistance."

Mr. Parkinson's observations on the ill consequences of great indulgence and lax discipline among children, are for the most part both seasonable and pertinent. Every man of observation must have seen how the sufferings of young persons, and the perplexities of physicians, are augmented by the want of parental controul. The author remarks, that "the diseases of children are, in general, involved in so considerable a degree of obscurity, as to demand the exercise of much ingenuity and acuteness of discrimination in the physician, whilst engaged in discovering the nature of the disease he is required to remove. But when his inquiries are impeded by excessive wailings; when the expressions of impatience magnify one particular symptom, and conceal the rest; the nicest investigation may prove insufficient to obtain the necessary information.

"Not only is the physician sometimes thus prevented from forming a just opinion of the nature of the disease, but even when, by dint of earnest attention and inquiry, he has satisfied his mind, and is disposed to employ those means which his judgment may dictate, it too frequently happens, that insuperable difficulties arise of another kind. The medicines he shall prescribe he will very likely be told must not only not be ill-flavoured, but, if he expects they shall be gotten down his patient, they must be absolutely without any taste.

"In those cases in which bleeding by leeches is required, he will often be told, that, however necessary their application may be, it is a remedy which must be declined, for should the child ever see them he would be immediately thrown into convulsions; and as to a blister, although they, the parents, might be disposed to submit to have their child exposed to the infliction of this torture, they are satisfied that, as soon as he should experience pain from its action, he would directly tear it off. Placed under such limitations, it cannot be expected, however anxious the physician may

be

be to procure relief to his patient, that much advantage can be obtained by his prescriptions. He therefore either declines his attendance, or, acting within the bounds to which he is limited, he does little more than alleviate some of the more distressing symptoms, whilst he has the mortification to witness the almost uninterrupted progress of the disease.

"Those children, who are allowed to conduct themselves entirely as their humour happens to prompt them, and who have unhappily been taught by their parents' imprudence, to regard their dictates as nugatory, are not only more exposed to the attacks of disease, but have the chance of its removal lessened by not allowing the employment of the most efficacious means. Frequently, also, their disorder is augmented, by the violent exertions consequent to the irritation of the mind, produced by the pain, and the various inconveniences accompanying the state of disease." Y.

ART. X. *Lectures on Diet and Regimen; being a systematic Inquiry into the most rational Means of preserving Health and prolonging Life: together with physiological and chemical Explanations, calculated chiefly for the Use of Families, in order to banish the prevailing Abuses and Prejudices in Medicine.* By A. F. M. WILLICH, M.D. Physician to the Saxon Embassy at the Court of Great Britain; Author of the Elements of Critical Philosophy, &c. Octavo. pp. 643. LONGMAN, London. 1799. Price 9*s*.

THE author of this very elaborate performance acknowledges his obligations to many English and German writers. Among the former, he has occasionally availed himself of the excellent writings of Ingenhouz and Priestley, on the subject of "*air and weather;*" of Fothergill and Vaughan, "*on dress;*" and of Armstrong, Cullen, and Falconer, on "*food and drink;*" to Dr. Fothergill, also, on the subject of

of "*sleeping and waking,*" he is much indebted, as well as to Mr. Adams, for his useful treatise on the "*Treatment and Preservation of the Eyes.*" Beside the valuable observations drawn from all these sources, he has been greatly assisted by the opinions of several German writers, viz. Hahnemann, Hufeland, Marcard, Sœmmering, Zimmerman, and others; having derived considerable advantage from the general result of their respective inquiries on the subject of diet and regimen. The work is divided into twelve chapters; in the introduction to which, occupying seventy-one pages, Dr. Willich delivers several observations on a variety of subjects, as connected with the science of medicine, and the physical education of the body.

The first chapter, on the means of preserving health and prolonging life, contains the various opinions that have successively appeared on this subject, which the author justly concludes were erroneous and injudicious: he thinks that all artificial means have rather a tendency to shorten, than to prolong human life, and that we can never safely expect the accomplishment of this great object, unless we pursue methods more consonant to nature, and more verified by experience. The truth of this, he observes, "will be more evident, when we come to inquire into the *conditions*, which are essentially requisite to the attainment of a long life.

"The *first* of these is a certain bodily and mental disposition to longevity, not easily defined, yet sufficiently known and understood. In whatever this disposition may consist, it is matter of astonishment, and inexplicable by the laws of animal economy, that many individuals, frequently under the most unfavourable circumstances, and in the most unwholesome climates, have attained to a great and happy age. This much may be confidently affirmed, that without this principal requisite all other advantages are often of no avail;—the most salubrious country air, a district abounding with aged inhabitants, a rigid adherence to

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the diet of Cornaro, a regular course of exercise and recreations, with the best art of the physician, cannot ensure the felicitous prospect of a long and healthy life.

"*Secondly.* I cannot help thinking that there is, in most cases, a sort of hereditary disposition to longevity; an innate principle, or quality, which, like many family diseases, is propagated from one generation to another. Perhaps nine out of ten old people could make it appear that their parents and ancestors also lived to a great age; a reason which may be admitted, without having recourse to any material substance as the cause or effect of this inherent virtue. On the contrary, we find a similar hereditary disposition prevailing in some maladies, the cause of which has hitherto been inexplicable: such, for example, is the disease called Apoplexy, which is so rooted in certain families, that sometimes a long line of descendants are and remain subject to it, however dispersed in different parts of the world, and under circumstances of the greatest diversity of living.

"The *third* pre-requisite to longevity is, what I shall call a *perfect birth* of the child, and a proper subsequent conduct in the mother: upon which subject it is not my intention to expatiate in this place. That acute physiologist, Lord Bacon, somewhere remarks, 'that children partake 'more of the nature of the mother the longer a time she has 'nursed them; and that those children which most resem-'ble the mother will be generally found to have a claim to 'longevity.'

"*Fourthly.* A gradual, and not too precipitate culture of the physical and mental faculties, may be properly considered as an excellent preliminary step towards prolonging life. The age of man bears a certain proportion to the growth of his various powers; and the longer we can protract the different stages of life, the more extended will be the whole compass of our existence. As it is evidently the design of

nature, that man should live longer than any of the lower animals, a very few excepted, he of course requires a greater space of time to develope the faculties both of mind and body. Animals, which arrive soon at the perfection of their form and nature, live but a short time. Man requires upwards of twenty, and, according to some, twenty-five years, before he attains to full maturity; and if it be a rule of nature, that animals in general live eight times the number of years which is requisite to the attainment of their perfect growth, a strong presumption arises, that the age of man might be extended to nearly two hundred years. In the works of the illustrious Bacon, and particularly in his 'Historical View of Life and Death,' are given many strong arguments to confirm this assertion. Surprising as it may appear to some, there is a possibility at least, if not a probability, that the limits of human life might be still further extended, if mankind could by any means be persuaded to return to that primeval state of nature, from which history and tradition have furnished us with so astonishing and almost incredible instances of longevity. It is not my purpose to inquire here into the degree of credit which may be due to the accounts of some extraordinary facts of individual longevity recorded by the sacred historian, as the learned vary much in their opinion relative to the computation, and whether the solar, the Arabic, or the lunar year, or a still shorter measure of time, is alluded to. This, at least, seems to be generally admitted, that our first parents, and their descendants before the deluge, enjoyed an enviable, uninterrupted state of health; that their vegetable aliment, and general mode of living, was extremely simple, and nowise prejudicial; that the constitution and temperature of this globe itself must have been greatly affected and deteriorated, in consequence of the flood, or other causes of which we are ignorant; and, lastly, that those impetuous and inordinate appetites and passions, which, like flames,

may

may be said to consume the powers of life, in these times, were either then less violent, or they exerted their baneful influence at a much later period of life.

"Nature resents every outrage committed on her stores, and seldom fails to punish the transgressors, both with lingering disease and early dissolution. This observation may be applied to the moral, as well as the physical faculties of man. It is commonly said, and not without some degree of truth, that very forward children seldom live to any age; if it be explained to signify, that too early an exertion of mental powers is in most cases destructive. The same remark holds good in what relates to the body. The inhabitants of hot climates, who frequently marry at the age of ten and twelve, or twelve and fourteen, begin to be old at thirty, and rarely survive the sixtieth year. Every thing which hastens the evolution of the natural powers, every exertion of strength disproportionate to the ability of the individual, should be carefully avoided, as it is of dangerous tendency. Hence the great art of education, the great art of living, consists in following the path of nature.

"*Fifthly.* We should constantly enure ourselves to the habits of brooking and resisting the various impressions of external agency.—Some persons, who have paid a very rigid attention to diet, have notwithstanding been unable to reach even the middle age; while others, who have been addicted to the most irregular and extravagant courses, have been observed to live to a very advanced age.—Hence arise contradictory maxims in dietetics, which can only be reconciled by deciding chemically between the two extremes, and ascertaining pretty nearly the absolute and relative salubrity of things. All deviations from the rules of diet are in a certain degree hurtful; although these precepts may in most cases have only a relative value. Many epicures have been known to reach the seventieth and eightieth year, if they have once survived a certain critical period of their lives.

As soon as the body becomes accustomed to the use of some things, at first disagreeable, and perhaps hurtful, the noxious tendency will not only be removed, but we shall find our frame hardened and strengthened by the habit of using them. Nature must stand many a shock, if she would familiarize herself to the vicissitudes of climate and opposite modes of life; but every victory she gains in these encounters will be a means of rendering her more vigorous and unconquerable. How could the sublime mind of Frederic the Great have remained so long in its earthly vehicle, if he had not improved, by constant culture and discipline, the original disposition of his temperament for a long life? A thousand other men, who have endured as much exercise of body and exertion of mind in their younger years, as he did, have yet not attained to any remarkable age. Severe and obstinate diseases have also been thought, in many instances, to contribute to the prolongation of life: this is at best, however, but a doubtful point; although it cannot be denied, that many sick persons have, to all appearance, acquired additional strength and spirits, after having recovered from a distressing quartan ague, or some threatening pulmonary disorder.

"*Sixthly.* We may take notice of a certain *steady and equal progress of life,* as highly conducive to the great object in view, whether it flows in the manner of a gentle stream, or resembles the more active course of a rapid river. The mind, when habituated to certain situations and pursuits, which almost constantly affect it in an uniform manner, is most likely to preserve its reasoning powers unimpaired and sound. He, whom neither violent joy convulses, nor deep melancholy corrodes; whose drama of life is not changed by passing too suddenly from one extreme to another, may, with some probability, expect a long enjoyment of that life, with which he has become so intimate.—There are many whose days quietly glide away, like those of a simple

rustic, in continual sameness: these persons, it is observed, generally live to a great age.

"*Seventhly.* A very necessary cause of the attainment of a considerable age, and perhaps more so than we have yet mentioned, is a sound state of digestion. In very old people, we generally find the digestive organs in excellent condition; neither is there a surer symptom of approaching dissolution, than complaints in the stomach, or frequent returns of indigestion. The Swiss are indebted, it is thought, to the vigorous tone of their digestive powers, for the long preservation of their lives, in general, and for the great number of old people found among them. Milk and vegetable food seem remarkably well adapted to invigorate the stomach. To effect the same purpose, Lord Bacon advises old persons to have recourse to strengthening baths, fomentations, and similar *external* remedies, which operate upon the absorbent system. During the use of them, however, a thin and yet nourishing moderate mode of diet should be observed, in order to save the organs of digestion.

"*Eighthly*, and lastly. We may recommend equanimity, or a state, when the mind, from the happy nature of its pursuits, is not yet disquieted by too violent exertions. In the literary professions, and particularly among such individuals as are placed in easy circumstances, we may discover as many instances of longevity as in the more laborious occupations. It was remarked by the ancients, that grammarians and rhetoricians commonly attained a great age. The mind being engaged in scientific pursuits, and other objects in which we find pleasure, such as conversation on literary and mixed topics, collecting the productions of nature, a continual industry of mental research, diversifying the pursuits or amusements, yet gradually and constantly persevering in exertions toward the attainment of some principal object—all supply the vital power, as it were, with materials, like the famous cruise of oil, which proved a

never-failing support to the widow of *Zeraptis*. On the other hand, it is a general remark, that deep thinkers, speculative philosophers, and those whose powers are continually absorbed in abstruse inquiry, soon feel the effects of age, from their great exertions of mental power. This must be understood, however, with exceptions, as in the cases of Sir Isaac Newton, Haller, Euler, and the pride of his nation and age, the profound and venerable Kant, still living at Kœnigsberg.

"This much I venture to say on the various rules and precautions requisite to attain a long and healthful life. Some of these particulars are, no doubt, found united in a certain proportion of the individuals who arrive at a respectable age. It is commonly remarked also, that the inhabitants of mountainous countries, for the most part, live to a greater age than those of plain, and particularly marshy districts. This is in part true; yet we are not to consider the lofty regions in the Alps and Pyrenees as possessing these salubrious qualities; for it is only upon moderate heights, and in hilly rather than mountainous countries, that we so frequently meet with people of an unusual age. Persons who are constantly travelling are likewise said to enjoy a long and healthful life; and Lord Bacon further includes in the list of long livers, such as are of a melancholy temperament. It is a questionable point, whether the great age of many Turks is to be ascribed to the serenity of their climate, their daily use of the bath, or their uncommon temperance in eating and drinking. For, as to what we are told of their copious use of opium and other narcotics (the former being used by them as an article almost as necessary as food,) we have already shewn the noxious tendency of such practice; opium generating, in a remarkable degree, a disposition of the fluids, which in many respects resembles that of hypochondriacs. There is scarcely an instance of any person, that has attained to uncommon

uncommon longevity, who has not been particular in his diet and manner of living. But in this respect we cannot hope to derive advantage from excessive solicitude: as when in want of sleep, the more we think of it the more it shuns us; so those who most eagerly wish for longevity are the least likely to attain it. Age is a gift which Heaven frequently bestows upon mortals when they are asleep, or, in other words, when they are scarcely sensible of it!"

The second chapter treats of *air and weather*; their influence on the human body; the means of improving the former, and diminishing the pernicious effects of the latter. In considering the particular and positive effects which the different states of the atmosphere produce on our frame, and in what manner they are found, in a variety of cases, to influence our health, Dr. Willich makes the following remarks:

"*Warm air* relaxes the solid parts of the body, and occasions a stronger circulation of the fluids. *Heat* is chiefly oppressive to the nerves; hence the tender and the infirm suffer severely in hot weather; hence hysteric and hypochondriac complaints, convulsions, and diarrhœas. *Cold* renders bodies more compact, particularly the solid parts of the animal structure, such as the muscles, nerves, bones, &c. They become more elastic in winter; the appetite for food is stronger, and digestion easier and quicker. On the contrary, the resistance of the fluid parts becomes so great, that even the increased powers of the solids cannot overcome it, if the cold be too violent. In winter the blood is much disposed to inflammations; hence stitches in the side, inflammatory sore throats, rheumatisms, &c. In persons who take little exercise, the fluids are apt to stagnate, and the solids to chill during the winter: upon the whole, however, the effects of cold weather may be rendered less hurtful, and even salutary to the body, if the necessary exercise be not neglected.

"*Damp*, or *moist air*, suddenly relaxes and debilitates;

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it occasions a slowness in the circulation of the fluids, which gives rise to stagnations; it impedes both the circulation of the blood and the secretion of humours, by checking the insensible perspiration. If the moisture of the air increases, we experience an unaccountable torpor and *ennui*; with the loss of energy we lose our gaiety, and the mind is depressed with the body. Damp places and districts are always unwholesome, but they are particularly so in cold weather. Moisture, by diminishing perspiration, produces disorders of the throat, the breast, and the abdomen. The moist night-air in hot climates, and after hot summer-days, is no less hurtful. But the most dangerous and fatal effects on the human body have been observed to arise from moist air accompanied with hot weather; for, when moisture impairs our energy, heat does so in a still greater degree, by opening the pores through which the moisture penetrates into the body, predisposing every part of it to putrefaction and dissolution. This accounts for the great mortality prevalent during the hot season at Batavia, and some of the West India islands.

"*Dry* and *cool air*, from its possessing a due degree of elasticity, promotes in an extraordinary degree the serenity and alertness of mind and body; hence it is found uncommonly salubrious to hypochondriacs. But a dry and very cold air generates inflammatory diseases; because it inspissates the blood.—Dry and hot air affects us like heat, and enervates the body. But a dry air, which is not too warm, is both agreeable and healthy.

"Great and *sudden changes* from a warm to a cold, or from a light to a heavy air, are highly injurious to valetudinarians as well as to the healthy. Soldiers in camp, and sometimes travellers, feel very severely the bad effects of cold and moist night-air, after long marches and journies. Weakly and infirm persons have frequently ominous sensations previous to any remarkable changes of the air.

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"A moderately heavy and elastic air is the most pleasant and salutary to the human body; hence nature has not assigned us our constant residence on the summits of mountains. Yet a light and rarefied air, such as is felt on the highest mountains, is not so unfit for respiration, nor does it manifest so noxious an influence on the human body, as was formerly believed. The latest travellers assure us of the contrary, and speak in decisive terms of the salutary effects of the air, during a short stay in those elevated regions.

"Among the different WINDS, which are nothing else but strong commotions of the air, the long continued *north wind* is comparatively the most wholesome; it purifies the atmosphere of noxious vapours, renders the air serene and dry, and thus imparts to the human body elasticity, vigour, activity, and a lively colour. It is, however, troublesome to persons of tender habits, and occasions in them, cough, inflammation of the throat, pain in the side, obstructions, and febrile diseases. The *south wind* weakens and relaxes the body, and is very apt to produce catarrhal affections. The *morning wind* is very drying; but *evening winds* are cool and moist, being generally accompanied with rain and changeable weather. All these winds differ materially in their qualities, from the situation of the place, and accordingly as they blow over a continent, over the ocean, or over high mountains and icy regions, from which they carry along with them more or less of cold and humid particles. But, upon the whole, too dry weather is always more healthy than that which is too moist.

"Of the four SEASONS of the year, the *autumn* is the most unhealthy; because then the particles of perspiration are not only retained in the body, but likewise in a state inclining to putrefaction. This disadvantage, however, may be easily obviated, by guarding ourselves with proper dress, and choosing a suitable diet. Too light a dress, and

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too thin stockings, are not advisable at this season. The *spring-season* is, in general, the safest and most healthy. Spring, and the beginning of *summer*, are most salutary to children and young persons; while the summer, and the beginning of *autumn*, agree best with the aged. The latter end of autumn, and the succeeding *winter*, are commonly the most healthy seasons to persons of a middle age.

"It has been remarked by medical men, that certain diseases appear and disappear according to the different seasons. Thus, putrid and bilious disorders prevail in summer; inflammatory diseases in winter; and the catarrhal, mucous, and gastric or stomachic affections, in spring and autumn. It has been further observed, that in spring the blood usually circulates more freely; hence, probably, arose the ancient practice of blood-letting, and taking laxatives, at certain regular periods; both of which," says the author, "I have already pointed out in the preceding chapter, as being of a dangerous tendency, and always hurtful to the healthy.

"As the vegetable kingdom is renewed in spring, and as vegetation in general is most lively in that season, there can be little doubt that the pure vital air is then most copiously evolved by means of the solar light. Hence it follows, that the vernal air is more wholesome than that of autumn, which is saturated with corrupted and putrescent particles. Still the cold of autumn, and the frequent winds then prevalent, prove extremely efficacious in counteracting the baneful effects of corruption and putrefaction.

"If the temperature of the air corresponds with the natural constitution of the season, we may expect what is called a healthy year, and the usually prevailing diseases will be of a mild nature; but if the weather does not agree with the general laws of the season,—if, for instance, the winter prove warm, or at least moderate, or the spring cold and severe, with sudden alternations of heat, we may expect

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to find the year pretty generally marked with serious and obstinate diseases.

"The temperature of the air depends not a little on the natural situation of the country, whether it lies high or low; whether its mountains oppose, or give a free passage to the winds; whether it contains flowing or stagnating waters, or morasses; and whether it is open, or covered with woods.—Country-air, upon the whole, is always purer than that of towns, narrow streets, and crowded buildings."

In the third chapter the author enters into the consideration of *cleanliness*, and its various modifications, so far as it is immediately connected with the welfare of the body;—also on the management of the teeth;—and the use of baths.

The fourth treats of *dress*; in which the advantages and disadvantages of the usual mode of clothing are considered, together with proposals for remedying its effects. The general properties of a good dress, the author is of opinion, are the three following:

"1. That it be not so hard and unpliable, as to obstruct the free and easy motion of the joints, and molest us, either by its weight or tightness.

"2. That it preserve the body in that degree of temperature which is most agreeable, as well as most suitable to the different functions and motions in a healthy state.

"3. That it do not produce any detrimental effects, so as to increase perspiration in an unnecessary degree, nor too much absorb the vapours of the atmosphere."

This whole chapter merits attention,—and contains many useful suggestions, which our limits will not allow us to particularize. E.

(To be concluded next month.)

ART. XI. *One Hour's Advice, respecting their Health, to Persons going out to the Island of Jamaica; with a Description of the Island.* By R. WISE. 18mo. pp. 70. JOHNSON, London. 1798. Price 1*s.* 6*d.*

THE publisher of this little tract lays claim to no other merit than having collected, from Mr. Long's History of Jamaica, a few important practical hints for the use of his countrymen going to the West Indies. He says he was induced to make these extracts, and to lay them before the world in their present form, by "the wonderful preservation, which, under God, he has experienced, from a minute attention to the rules prescribed."

The great axiom of health among the natives of the West Indies is, *to keep the body open, to drink water, and not to indulge in excessive venery:* it is to be regretted, however, that the last of these injunctions is the least observed:

> "For here, no frozen chastity retires;
> But love voluptuous lights incessant fires." T.

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *An Account of the Appearances, on Dissection, in ten Cases of the Pelagra.* Communicated by a Correspondent.

To the Society of Physicians and Surgeons.

GENTLEMEN,

AS a well-wisher to your useful publication, the *London Medical Review and Magazine*, I transmit for your use the enclosed abstract of dissections from Dr. Strambio's Treatise on the Pelagra. At some future time I may lay before the Society an abstract (with remarks) from the second part of the said Treatise.

I am, GENTLEMEN,

London, Your humble servant,
June 10, 1799. H.

TOWARDS

TOWARDS completing the history of the pelagra, of which an interesting account was inserted in the second number of the London Medical Review and Magazine, I send the following observations relative to the appearances on dissection, taken from a work published at Milan in 1787, and entitled, *De Pelagra Annus Secundus; sive Observationes, quas in regio Nosocomio, quod in Oppido Legnani Pelagræ Morbo laborantibus Augusta Pietas constituit,* CAJETANUS STRAMBIO *regius ejusdem Nosocomii Director collegit. Anno* 1786. *Mediolani* 1787.

This publication, which consists of 139 pages in 4to. is divided into two parts; of which the first contains histories of cases, and the second, general remarks and inferences, relative to the nature and treatment of this disorder: together with an appendix on another cutaneous affection (De Lichenosa Affectione, vulgo *Salsedine*,) common among the Milanese, sometimes joined with the pelagra, and having a great affinity to it, but, in Dr. Strambio's opinion, an essentially different disease.

Although, in the present communication, I shall confine myself to extracting from the *first* part of the above-mentioned work what relates to the appearances on dissection; yet, in order to give some idea of the obstinate and fatal nature of the pelagra, I shall just notice that the hospital report for one year shews that of 127 patients, 14 died, 72 were dismissed relieved, and the remainder (viz. 41,) continued upon hand.

Case 1.—Joseph Vignate, about fifty years of age. Had been in the hospital the year before.

On opening the abdomen, the spleen was found to be in a sound condition. The liver was of a pale yellowish colour, externally as well as internally; and the gall-bladder was tinged with saffron-coloured bile. The small intestines appeared in different places preternaturally red; the large intestines were full of indurated fæces.

On opening the thorax, the pericardium was found distended with water. No disease of the left lung; but the right lung adhered on all sides to the pleura and diaphragm, and contained a great number of mature tubercles.

On removing the cranium, the vessels of the pia mater appeared preternaturally turgid, and the ventricles contained an unusual quantity of water.

Case 2.—Francis Vismara, aged thirty-five. His father died of the same disorder twenty years before. Had been ill about two years.

The abdomen was full of water. The small intestines (in which there was a great number of lumbrici,) exhibited here and there dark spots, and in several places appeared as if they were tied with a string; the colon was distended with air to a vast size. The liver and spleen were of a darker colour than usual, and the bile in the gall-bladder was of a gold-colour. The vena portarum was empty.

Both sides of the thorax were full of water; but the liquor pericardii did not exceed the natural quantity.

There was nothing preternatural in the brain.

Case 3.—Dominick Guzzetti. Had been ill more than a year and a half.

On dissection, some yellowish-green bile (of which he had vomited up a good deal during his illness,) was found in the stomach; the small intestines were distended with air; the large intestines full of hardened fæces. Spleen and liver sound.

No morbid appearances in the thorax.

On removing the cranium, an ulcer (or abscess,) was seen in the upper part of the right hemisphere of the brain, large enough to contain an hen's egg, and penetrating down to the anterior ventricle; it was full of sanies, and no vestige of the plexus choroides could be found. The left hemisphere, in that part which corresponded to the abscess in the right, was hard, and almost scirrhous.

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It is to be remarked, that this person lived in the early part of his life with an oilman, and used to carry large and heavy vessels upon his head. Dr. Strambio is inclined (wrongly we think,) to consider the above-mentioned abscess of the brain as the consequence of his former employment, rather than of the pelagra. (*Par.* ii. § 67. p. 101, 102.)

Case 4.—Ann Losa, about thirty-six years of age. Had been ill for several years. Some time before her death had a cough, with purulent expectoration.

A considerable quantity of water was found in the abdomen. The liver appeared pale, both externally and internally. The bile in the gall-bladder was of a very deep yellow colour. The vena portarum empty. The spleen natural.

The cavities of the thorax and the pericardium were full of yellowish serum. The surface of the left lung (which in several places adhered to the mediastinum and pleura,) was covered over with a puriform matter (*puriformi materie,*) after removing which, the lung itself appeared perfectly sound *.

In the brain there was nothing preternatural.

Case 5.—James Dell' Oro, aged forty-eight. Admitted into the hospital in the beginning of August 1786; died on the 21st of September following.

The spleen, of a bluish colour externally; internally, of a dark red colour. The liver was of the usual colour, both externally and internally, but its figure exhibited a very remarkable deviation from the natural state; for the right lobe was thinner and more extended than the left—"*Lobus*

* There is something very singular in this case. If the pus, or puriform matter, was confined to the external surface of the left lobe of the lungs, how are we to account for the purulent expectoration? Did Dr. Strambio examine the internal substance of the lungs thoroughly? Perhaps not.—TRANSLATOR.

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enim dexter sinistro tenuior erat, et magis protensus;" the gall-bladder, by means of a broad canal, descended to the distance of six fingers breadth below the liver, and adhered to the kidney; the gall-bladder sent off its cystic duct in the usual manner, and the cystic and hepatic ducts formed together the ductus choledochus; but this last, after making several windings, opened into the end of the duodenum—*(in duodeni finem influebat.)*

The surface of the lungs was covered over with a mucus, resembling pus. In other respects they were sound.

In the brain there was nothing preternatural.

Case 6.—Charles Antonini, aged fifty. Had been ill between four and five years. Expectorated pus.

The spleen was so much enlarged as to weigh twenty-seven pounds. Its convex surface had a pale or whitish appearance, owing to a thick crust upon it—*(à crassâ quâdam crusta gibba facies albicabat,)* variegated here and there with violet-coloured spots; on being cut through, its substance appeared of a looser texture than usual, and watery; the towel with which it was wiped was stained of a brick-red colour. Liver sound; gall-bladder distended with yellow bile, and the whole system of the vena portarum empty.

The left lung presented nothing unusual; but the surface of the right lung (which adhered to the pleura and mediastinum,) was covered over with a purulent gluten; it was remarkably heavy, and seemed to have become perfectly steatomatous. A number of small black substances containing white concretions *(albis arenulis referta,)* which grated against the knife, were found attached to the bronchia and trachea.

The other viscera were in a sound state.

Case 7.—Bernard Pisani, aged fifty-five. Had been ill for several years.

In the abdomen there was a considerable quantity of reddish water. On the outer coat of the intestines, as well as in

in the mesentery, small gangrenous spots appeared here and there. The whole convex surface of the liver was beset with ulcerated pimples, or tubercles *(exulceratis tuberibus,)* and within its substance were innumerable scirrhuli. Spleen small and sound.

In the cavities of the thorax there was a great quantity of limpid serum; and on opening the head, a similar effusion was found under the pia mater.

Case 8.—Mary Gallazzi, aged twenty-four. Her sister ill at the same time of the pelagra. Was admitted into the hospital in the beginning of July, and died on the 4th of December following.

On opening the abdomen, the ileum appeared as if it had been tied with a string in seven different places, and it was so much thickened by a scirrhus, as scarcely to admit a surgeon's probe. Nothing preternatural in the liver. The gall contained in the gall-bladder was of a darkish yellow colour. Spleen small and sound.

Right lung sound, but adhered to the pleura, mediastinum, and diaphragm.

No morbid appearances in the brain.

Case 9.—Joseph Racchi, aged forty-five. Had been ill for several years.

The cavity of the abdomen full of limpid serum. The omentum very fat, and extending to the pelvis; the mesentery abounding in fat; the intestines sound. The stomach contained twenty lumbrici, and there were seven of these worms in the œsophagus. Liver sound. Gall-bladder full of bile of a yellowish brown colour. The trunk of the vena portarum empty; but the branches of it, which enter the substance of the liver, contained a considerable quantity of blood, of the natural colour and consistence. The spleen was externally of a bluish colour, internally of a natural appearance. The stain which it gave to the towel was similar to that from the juice of elder-berries.

In the cavities of the thorax, and in the pericardium, there was a good deal of water. The heart was covered with fat.

Case 10.—Magdalene Grassi, aged fifty: ill about twelve months.

A good deal of water in the abdomen. Liver of a palish yellow colour, but sound. Gall-bladder externally whitish; it contained bile yellow, and rather thinner than usual. Trunk of the vena portarum empty; but the branches entering the liver contained blood of a natural colour and consistence. Spleen small, externally of a violet-colour, internally of a light flesh-colour. It stained the towel of a brick-red colour.

The left lung, after being detached from the pleura and diaphragm, to which it adhered strongly, was found to be very heavy, and, when cut into, its substance resembled that of the liver. There were no tubercles, no pus, *no air! (Tubercula non aderant, non pus, non aër.)*

Excepting a good deal of serum under the pia mater, there was nothing preternatural in the brain. H.

Art. 2. *Description of an artificial Arm, Leg, and Appendages;* invented and made by Mr. Clemison, London.

(Illustrated by an Engraving.)

To the Editors of the London Medical Review and Magazine.

Gentlemen,

THE following short description (accompanied with a drawing) of an apparatus invented for the use of patients who have lost either an arm, hand, leg, or foot, is submitted to your attention. If it should concur with the design of your valuable monthly publication, I shall be much honoured by its being noticed in your next number.

I am, &c. &c. Joseph Clemison.

St. John's Square, June 19, 1799.

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THE ARM AND HAND.

The artificial hand represented in fig. 1. is made of wood, to the size and shape of the hand which is deficient. It is rendered flexible in all the joints by means of balls and sockets, b, b, fig. 2. made of hard wood, and united by concealed steel chains, a, a, fig. 2. which strengthen the hand and render it much more durable. The motion of the wrist is performed by the help of a ball and socket, made also of hard wood.

The arm is made of strong leather, and screwed to the wrist above the joint. If the arm be amputated above the elbow, a joint is formed at the elbow, of wood (like the joint of a pair of compasses,) which is made to move freely: a double spiral spring is fixed to the upper part of the wrist joint, and the other end above the elbow joint, which is just sufficient to raise the weight of the arm; so that in walking it swings, and resembles the natural motion of the arm: the upper part of the arm is likewise made of strong leather, which laces on the stump, and is fastened to the upper part of the elbow joint.

THE LEG AND FOOT.

The artificial leg, fig. 3. is formed of silver or copper, with the nicest exactness, to the shape of the absent natural leg. The foot is made of light wood, bored hollow in several places, to decrease its weight, and jointed, to resemble the natural motion and appearance of the foot. Three springs of unequal length are fixed under the sole, which bring the toe down when it has been bent up by the weight of the body in walking.

These legs, being made thin, may be accommodated to a stump from six to eleven or twelve inches long, to which a strong leather bandage is fastened by a lace behind; and on this bandage in front is rivetted a broad brass hook, which takes hold of and bears on the top of the leg, to support the weight of the body. In the hook is a notch which

sets against a pin in the front of the leg to adjust its situation.

Two steel plates, covered with soft leather, are affixed to the leg by centres at the knee, so as to retain its motion: these plates are fastened to the thigh by three straps which buckle round it. A strap with a serpentine spring passes over the shoulder, and is buttoned to the outer steel plate, to support the weight of the leg; the spring gives freedom to the body, and prevents its being confined or incommoded by the strap.

P. S. A leg and foot of this construction were lately made for a patient of Mr. BLAIR, who informs me that it entirely answers his expectation.

Art. 3. *On the Use of the Semen Phellandrii Aquatici (Wasserfenchel) in Consumption.* By Dr. SELIG.

THE water-hemlock, which is the proper English name of the plant above mentioned (and not "*a species of fennel*," as it has been erroneously translated in a contemporary MEDICAL JOURNAL,) is a remedy which has been lately restored to practice, after having lain a very long time in obscurity. Both Dr. Lange and Dr. Marcus Herz have written on it, and it seems to have been chiefly to the excellent treatise of the last-mentioned author that we owe the attention which has been paid to it by Dr. Selig.

In the present paper two cases are related, the histories of which leave no doubt on our minds as to the efficacy of the medicine, provided the narrative be perfectly faithful. The first case is that of a young unmarried woman whose mother died consumptive: she laboured under cough, dyspnœa, a purulent expectoration, pains in the thorax, and fever in the afternoon. It ought to be remarked, that during four weeks, in which Dr. Selig exhibited various pectoral and febrifuge remedies, the cough, the fever, and pains in the

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chest, were much abated; but the expectoration continued, and was offensive by its smell. He then ordered the water-hemlock, with nitre and gum Arabic, and strongly urged his patient to permit a seton to be inserted between the shoulders: she would not consent to have this last remedy applied. In fourteen days she recovered astonishingly. There were now scarcely any remains of fever, and the cough and purulent expectoration were greatly diminished. Her strength and spirits returned. But as the Doctor still insisted on the propriety of introducing a seton, and as her terrors at the remedy were great, she abandoned him and his medicines. She then began to grow worse, and in a few months after again sent for him; but the disease was now too far advanced to leave any room for hope, and she died some months afterwards.

The second case is more interesting. It is that of a youth of thirteen years, who had all the symptoms of phthisis pulmonalis, and who was completely cured by means of the semina phellandrii aquatici. He took them for two months without interruption. The common dose is a scruple every three hours.

There is a note added to this case by Dr. Hufeland, the editor of the Journal from which this short account of the *water-hemlock* has been translated, wherein he says that he also has derived great benefit from the same remedy. H.

Art. 4. *On the Effects of a strong Tincture of Cinnamon in a Case of nervous chronic Weakness.* By J. F. KRUGELSTEIN.

(Extracted from Hufeland's Journal.)

THE principal symptoms of this case, at the time the medicine alluded to was first exhibited, were great anxiety at the præcordia, confusion of intellect, fainting, an evi-

dent interruption or stoppage of the pulse, and comatose sleep. These, which may be said to have constituted the principal phenomena of the paroxysm, often continued a whole day, and terminated in violent explosions of flatus upwards.

The patient, a married woman of a very delicate fibre, quick mind, and cheerful disposition, first began to experience unpleasant nervous symptoms in her thirty-third year, in consequence of a fright and very tedious delivery, in which she lost a great deal of blood. In her forty-seventh year all the symptoms grew worse, and it was observed that they were always brought on and increased by talking.

The remedy which cured her was an infusion of ʒiij of good cinnamon in ʒxvj of arrack. She took at first fifty drops five times a-day, and afterwards only a large tea-spoonful every morning and evening. The patient was then fifty-four years old.

This was the only medicine employed for a quarter of a year, during which not only the symptoms almost entirely disappeared, but the emaciated subject began to recover her flesh and strength.

At the time of writing the above account of her case she took the tincture only once a-day. H.

Art. 5. *An Abstract of a Report delivered to the Class of mathematical and physical Sciences, of the French National Institute, on the first Experiments which were made by the Commissioners nominated to examine and ascertain the Phenomena of Galvanism.*

(From the Journal de Physique, &c. Brumaire, An vii.)

THE commissioners appointed for the purpose of conducting these highly interesting experiments were Messieurs Coulomb, Sabathier, Pelletan, Charles, Fourcroy, Vauquelin,

quelin, Guyton, and Hallé; M. Venturi, de Modene, and Humboldt, likewise assisted in the commission. The experiments which they instituted are here narrated in a more luminous and methodical order than that in which they were made; so as to give a very intelligible account of the general results, and to facilitate the progress of future inquirers.

To produce the effects which characterize the singular property of animals called GALVANISM, it is necessary, by means of the galvanic instruments, to establish a communication between two points of contact, more or less distant from each other, in a continuity of nervous or muscular organs. From hence it results, that the whole system of this communication at the moment of action represents a complete circle divided into two portions, which are intersected at the two points of contact: one of these portions is formed by the organs of the animal which are to receive the influence, the other by the instruments which produce this influence.

The former of these portions of the complete circle is called *the animal arc*, the other *the exciting arc*. The latter is usually composed of several pieces: some of these being placed under those parts of the animal, between which the communication is established, will be called *supporters*, *armatures*, &c.; the others, intended to form the communication by their continuity with these, are called *communicators*.

The present account of the experiments made by the French commissioners is divided into the following articles. In the FIRST are examined the results of the various combinations and dispositions of the parts constituting the *animal arc*. The SECOND exhibits all that has been observed on the nature and respective dispositions of the *exciting arc*. The THIRD contains observations on those circumstances which do not enter into the composition of either part of the *galvanic circle*; but which influence, determine, vary, or

destroy

destroy the success of the experiments. The objects of the FOURTH are some trials of the means proposed for varying, diminishing, or restoring the *susceptibility of animals* to galvanism. In the FIFTH, a few experiments are arranged, with a view to establish a progressive *comparison* of those affinities which several natural philosophers have suspected to exist *between the galvanic and the electrical phenomena*. Under the SIXTH and last article are placed the details of those experiments which *M. Von Humboldt* repeated before the commissioners on the 15th Prairial, 6th year, (June 3, 1798.) These relate to several experiments recited in the preceding article, and are attended with important modifications. This article also contains an enumeration of those experiments which the committee intend to repeat in consequence of some observations communicated by *M. Von Humboldt*.

I. To the number of twenty experiments were made on the *animal arc*. The first seven of these were directed to ascertain the relation between the nerves and those muscles over which they are distributed. In the last thirteen, the nerves were cut asunder, or subjected to ligatures; the section or ligature being always between the extremities of the arc. Nerves taken from different animals, or from different parts of the same animal, and joined in one and the same arc, were among the particular subjects of these experiments; as were also the solitary nerve, and the solitary muscle, included between the extremities of the *excitatory arc*. There were interposed too, in the course of these experiments, portions of nerves, and of muscles, distinct from those parts. And in some of the experiments the animal was without the skin and the epidermis.

The following are the inferences which have been deduced from these experiments.

1. The animal arc may consist either of nerves and muscles together, or of nerves alone, without muscles.

2. Nerves

2. Nerves are, therefore, the essential part of the animal arc; for the muscles are always more or less intersected by the nerves; and are, consequently, in part, a nervous organ.

3. All the parts of the animal arc must be either mutually continuous, or at least contiguous to one another. But even contiguity is sufficient to enable the galvanic phenomena to take place.

4. The section or ligature of a nerve interrupts not the galvanic phenomena, if the parts which are cut asunder, or bound up, still remain in close contiguity to one another.

5. No diversity of the parts forming the animal arc, though these be taken from different parts of the same animal, or even from different animals, will have power to impair its galvanic susceptibility, provided only that these parts be still mutually contiguous.

6. If the *integrity* or galvanic susceptibility of the animal arc be suspended by the separation of any of its parts to some distance from one another; it may be restored by the interposition of some substances, not of an animal nature, between the divided parts. Metallic substances are in particular fit for this use. But the mutual contiguity of all the substances entering into the composition of the arc must ever be carefully preserved.

7. The muscular organs which indicate, by contraction, the presence of the galvanic influence are always those in which the nerves of a complete animal arc have their ultimate termination.

From this it follows, that the muscles affected by galvanism are always those corresponding to that extremity of the arc which is the most remote from the origin of the nerves of which it is composed.

8. When all the nerves of the animal arc originate towards one of its extremities, then only those muscles

which correspond with the opposite extremity are susceptible of galvanic convulsions.

9. When an animal arc consists of more than one system of different nerves, which have all their origin about the middle of the arc, then will the muscles of these several systems of nerves be moved alike at both the extremities of the arc.

10. It seems likewise to appear, from a variety of these experiments, that the opinion of those is inadmissible, who ascribe the phenomena of galvanism to the concurrence of two different and reciprocally corresponding influences, one belonging to the nerve, the other to the muscle, and who compare the relations between the nerve and the muscle, in these phenomena, to those between the interior and the exterior coating of the Leyden phial.

11. It appears, lastly, that the covering of the epidermis, in the entire animal body, acts as an obstacle to the decisive display of the effects of galvanism; and that, though from its extreme tenuity it may not altogether prevent these effects, yet it cannot but very materially diminish them.

II. The *excitatory arc* is usually formed of three different pieces, made of different metals. Of these one must be in contact with the nerve; the other must touch the muscle; and the third must form the mean of communication between these two. This arrangement, though not indispensably necessary, is at least the most convenient.

In respect to the excitatory arc, the committee examined, 1st. The application of metallic substances to form it: in respect to which they endeavoured to ascertain the number and the diversity of the pieces of metal of which this arc may be composed; the metallic mixtures or alloys which are capable of being employed for this use; the particular degree of the friction of one metal upon another, which is favourable to the exhibition of the phenomena;

the

the different states in respect to galvanism, of metals differently mineralized. 2dly, The effects of the use of carbonic substances in forming the excitatory arc. 3dly, The effects in the same formation of bodies which are either non-conductors, or else very imperfect conductors of electricity, such as jet, asphaltus, sulphur, amber, sealing-wax, diamond, &c. 4thly, The consequences of the interposition of water, and of substances moistened with water, between the different parts of the excitatory arc. In forming their excitatory arcs too they made themselves the chord of the arc, they introduced into it animal substances which had lost their vitality; they rubbed the supporters with the dry fingers, so as to mark them with nothing but the traces of the perspiration from the skin. They made, likewise, some experiments for the purpose of ascertaining the relations between, on the one hand, the extent and magnitude of the surfaces of the parts composing the arc, and on the other, the effects produced by its energy. From their experiments they have also drawn some inferences concerning the relative efficiencies of the several constituent parts of the exciting arc. It is impossible for us here to relate in detail all this train of experiments. The following corollaries express the substance of those general truths which their authors were led to infer from them.

1. The excitatory arc possesses the greatest power of galvanism, when it is composed of at least three distinct pieces; each of a peculiar nature: the metals, water, and humid substances, carbonaceous matters, and animal substances, stripped of the epidermis, being the only materials out of which these pieces may be formed.

2. Nevertheless the excitatory arc appears to be not destitute of exciting energy, even when it consists but of one piece, or of several pieces, all of one proper substance. In general, it must be owned, identity of nature in the constituent pieces, and particularly in the supports forming the

extremities of the arc, diminishes, in a very sensible manner, its galvanic energy.

3. The slightest difference of nature induced upon the parts, whether by any feeble alloy, or by friction with extraneous substances, is, at any time, sufficient to communicate to the excitatory arc, that full power in which the identity of its composition may have made it defective.

4. As the animal arc is susceptible of being in part made up of metallic substances, or such others as are adapted to enter into the composition of the excitatory arc; so, on the other hand, the excitatory arc admits of being in part formed of those substances which are the proper components of the animal arc.

5. The energies of both the excitatory and the animal arcs are alike suspended by the separation of their component parts, or at least by the separation of these parts to a certain distance.

6. Even the smallest degree of moisture is sufficient to join the parts of the excitatory arc, and to determine their effects upon the animal arc.

7. The influence of the state of the atmosphere, and of surrounding circumstances, upon the success of the experiments of galvanism, is, consequently, very great. In order, therefore, to perform these experiments with due accuracy, the state of the hygrometer, and of other meteorological instruments, must be vigilantly inspected during their progress; and the influence of the persons making the experiment upon the sphere within which it is made, must likewise be carefully attended to.

8. The experiments which were made to ascertain the nature of the animal arc, together with those made upon the excitatory arc, with a view to the comparison of the effects of the flesh of animals, with or without the epidermis, and of the different effects of this epidermis when it is wet and when it is dry, appear to suggest to us that the

epidermis

epidermis is one of those substances which diminish or interrupt the efficacy of the excitatory arc. The epidermis is, as well as the hairs and bristles of animal bodies, among the number of those substances which deserve the appellation of *idio-electrics*.

9. Examine the substances which are fit for the formation of the excitatory arc, and you will find that the greater part of those which have been successfully put to this use are substances capable of acting as conductors of the electrical fluid; but that the substances which interrupt the operation of galvanism are generally such as are well known also to resist the transmission of electricity.

10. Lastly, it appears, that the galvanic energy depends, not only upon the nature and arrangement of the component parts of the excitatory arc, but on their extent too, and on the magnitudes of their transmitting surfaces. Z.

(To be concluded next month.)

Art. 6. *A Communication from* Dr. HOOPER, *respecting the Susceptibility of Persons exposed to the variolous Contagion, after having had the Cow-pox.*

To the Society of Physicians and Surgeons.

GENTLEMEN,

YOU will much oblige me by inserting, in the next number of your Review and Magazine, the following very important fact; from which it would appear that a person having had the cow-pox, may, at a distant period, be susceptible of the action of the small-pox poison.

Thomas and William Pewsey, two brothers, when in the service of Mr. Pennygar, farmer, of Cow-wick farm, near the Devizes, were seized with eruptions on different

parts of their bodies, from which they suffered very considerably, in consequence of milking some cows affected with a pustular disease. It was very generally reported in that part of the country, that having the cow-pox was a certain security against the small-pox. The two brothers, therefore, exposed themselves, repeatedly, to the infection of the small-pox, without any apprehensions of catching it. Five years expired; at the end of which period Thomas was taken ill, and died of the confluent small-pox. William Pewsey has since been inoculated twice with small-pox matter, but is not susceptible of the disease.

The following is the manner in which I obtained this information:—When at Oxford in June last, a report was in general circulation, that the assistant porter of Brazen Nose College had died of the small-pox, and that he had had the cow-pox some time before. This being in direct opposition to the generally received opinion, I was determined to inquire particularly into, and obtain, the circumstances of the case. Sir Christopher Pegge informed me that he was requested to attend Thomas Pewsey two days before his death, and that he found him covered with a very malignant small-pox, of which he soon after died. Mr. Ireland, his apothecary, told me that he attended this man from the first appearance of small-pox, which was very violent, and that he was then given to understand that the diseased person had previously had the cow-pox. Mr. Holyoak, brother-in-law to Thomas Pewsey, at whose house he died, and had lived for these last four years, by trade a shoe-maker, now living in the parish of St. Tolls, Oxford, gave me the following history, upon being requested to relate all he knew concerning his brother's having had the cow-pox: viz. That Thomas and William Pewsey had the cow-pox at Cow-wick farm about five years ago,—that upon his brother Thomas coming to live with him at Oxford, he

was frequently urged to be inoculated for the small-pox; to which he never would consent, saying that it could not hurt him, for that he had had the cow-pox,—that his brother told him, that when he had the cow-pox he *suffered nearly as much as those who have the small-pox*,—that he had several pocks, which were larger than those of the small-pox, and which ended in a brown crust. This is the plain and simple narrative of Mr. Holyoak, *word for word.* He also assured me that his brother Thomas had been, to his knowledge, frequently with persons labouring under the small-pox, which made the family at length believe what he said concerning the cow-pox preventing a person from having it; and that two months before his last indisposition, he continually nursed his three children, who then had the small-pox from inoculation. Upon being asked how many cows were ill at the time his brother caught the disease, he replied, he did not know, but that his brother used to say, several; nor did he know the number of pocks his brother had, or in what parts of his body they were situated.

I shall not, Gentlemen, presume to offer any observations on this case until I shall have heard the opinions of those practitioners who have had opportunities of attending to the *species* of this vaccine disease, and the period in which the matter must be taken or received, in order *to induce the specific morbid action of the constitution*, by which alone it can be rendered secure against that of the contagion of the small-pox. I shall therefore conclude with the following recapitulations:

1st. That *several cows* were infected at the same time.

2d. That the two others *suffered very considerably* from the eruptions.

3d. That they were *repeatedly* afterwards exposed to the contagion of small pox, and were not infected.

4th. That William Pewsey has, since the death of his brother,

brother, been inoculated twice with variolous matter, but was not found susceptible of the disease.

I have the honour to be, Gentlemen,
Your humble servant,
St. Mary-le-Bone Infirmary, R. HOOPER.
July 12th, 1799.

Art. 7. *Two Cases of Wounds.* Communicated to the Society by Mr. EDLIN.

GENTLEMEN, *Uxbridge, 16th July* 1799.

AS you expressed a wish in your last number, that the Society might be furnished by medical practitioners with original cases for your valuable Review, I have taken the liberty to trouble you with the relation of two, that I have lately had under my care, which are perfectly at your service if you think them worthy of insertion.

What principally induces me to transcribe them is, to shew what nature will sometimes be able to accomplish, if properly assisted, in the union of wounds, even beyond our most sanguine expectations.

The subject of the *first* is a lad, about fifteen years of age, servant to a farmer at some distance from this place: he was in the afternoon of the 30th of April last kicked by a horse, which occasioned a large lacerated wound on his leg. Several hours elapsed before I saw him; and on examination I found it was near seven inches in extent, and gaped amazingly; the tibia was laid bare, and the lips of the wound were at least four inches distant from one another; they were livid, and covered with grumous blood and dirt: there was no material blood-vessel injured, and from all appearance, I presume, there had been but little hæmorrhage. The pain and irritation were considerable; and he was under the most dreadful apprehension for the consequences, as

his

his friends had no idea that the wound could ever be brought to unite, and had led him to believe that the flap which hung down over his ankle must be cut off. Finding things in this state, I turned all unnecessary visitors out of the room previous to preparing my dressing, and I gave the patient thirty drops of the Tinct. opii, which rendered him stupid and insensible to his situation. I then cleared the dirt and grumous blood from the wound, and with six sutures brought the edges together, and confined them with straps of adhesive plaster: a roller was now passed round the leg, and the boy put to bed. I desired him to take half a pint of vinegar whey, and the next morning he took the following:

℞ Magnes. sulphur. ℥j. *(Magnesiæ vitriolatæ?)*
Antimon. tartar. gr ij.
Aq. menth. s. ℥vj.
Tinct. lavend. comp. ʒj.

M. ft mistur. cujus sumat coch. iij ampla 2dis horis, donec alvus responderit soluta.

May 1. He passed a tolerably good night: the purgative medicine had operated three times; the leg was easy, and but little swelling or inflammation; his pulse not very full or quick, nor was he unusually hot: however, I desired him to be put on a strict antiphlogistic regimen, and sent him the following powders:

℞ Kali nitrat.—Pulv. e tragac. comp. āā gr xv, Pulv. Jacob. gr ij. M. ft pulv. 4tis horis sumendus; superbibend. cyath. seri acetat.

℞ Pulv. ipecac. comp. ℈ß. Ft pulv. hora somni sumend.

2*d*. He had passed a very restless uneasy night. His head very painful; tongue foul and white; pulse full, quick, and hard, with a flushed countenance, and skin parched and dry, with constant thirst. His leg was much swelled, in great pain upon the slightest motion, and I observed a

red

red line running along the inside of his thigh up to his groin, the glands of which were in some measure indurated. Urine pale, clear, and in considerable quantity. I removed the bandage from his leg, and took six ounces of blood from his arm; continued the powders; repeated the purgative medicine; and desired cloths dipped in the vegeto-mineral water to be kept constantly moist on his leg and thigh.

3d. Had rested better than the night before. His pulse not so full and quick, and his head was easier; continued the remedies as before. In the evening, his leg being extremely painful and tumid, I applied six leeches round the lips of the wound, and sent him the following:

℞ Calomel.—Pulv. Jacob. āā gr iij, Opii gr j. Ft pulv. hac nocte h. s. sumend.

4th. He had a tolerably good night. The pulse was much softer and slower; the skin moister, and not so hot; and the urine deposited a white sediment. The leeches had bled very freely, and the redness and inflammation were in great measure subsided. I continued the fever powders and the vegeto-mineral water as before, and ordered him an opiate at night.

5th. The leg was much easier, he was quite free from fever, and had passed a good night. I examined the wound, and found that the upper part, for about two inches, had united by the first intention; the lower, for about the same space, had done the same; but in the centre, suppuration had taken place, the stitches had sloughed off, and a considerable discharge of thin fœtid matter followed. I dressed the sore with a pledget of simple ointment, and then applied a plaster of the size and shape of the eighteen tail bandage, which would give me an opportunity of dressing the sore without disturbing the leg.

I now directed that he might have bread and milk for his breakfast

breakfast and supper, and that a pint of porter might be given him in the course of the day, and sent him the following medicine:

℞ Pulv. cinchon. ʒß.
—— Gum. myrrh. ϑß.
—— Opiat. gr iiß.
—— M. f pulv. 4tis horis sumendus.

9th. He continues mending. His leg is easy, granulations are rising, and the discharge is thick and of good quality; sleeps well at night, and his bowels are in a tolerably good state. Continued his bark powders, and ordered him to have two glasses of red port every day.

17th. Still continues mending. The wound fills up very kindly, and the superior and inferior parts are cicatrized. Continued the powders twice a day, and got him out of bed for a few hours.

30th. The wound diminishes daily in size; his health being quite established, left off his medicines, and begins to move about the house on crutches. From this period he continued gradually mending, and at present he feels but little inconvenience from it, except a weakness in the leg and foot from long confinement, which I trust will in time be removed.

Second Case.—E. S. about sixty years of age, on the 27th of December 1796, was chopping wood with a cleaver, when unfortunately the instrument slipped, and took off the little finger of her left hand. In this state, while still bleeding, she came to me. I found the division complete, except a bit of skin on the under-part, and after the most minute examination, I could not detect any splinter from the bone; I therefore, rather than amputate it, was resolved to attempt the union by the first intention. For this purpose I cleared away the grumous blood, that the orifices of the divided vessels might have a free opening; I then brought the parts as nearly as possible in their ori-

ginal situation, which I retained there by sutures, one superior and two lateral, the skin on the under-part forming the fourth. I afterwards laid on straps of adhesive plaster, and then bound it up with splints and bandage, as a compound fracture, taking in also the ring finger for a more sure support, and to prevent accidents.

In this state it remained for about fourteen days, when I removed the dressing, and to my inexpressible satisfaction found the union quite exact and complete; at the same time the colour and sensation appeared perfectly natural. At the end of the fourth week I removed the splints, and the woman has at this time the free use of her finger as if nothing had happened, only it is rather smaller than the corresponding one on the opposite hand.

In this case we see what astonishing renovating powers Nature possesses, and how often she kindly assists us, if we do but lead her in the right way.

I remain, Gentlemen,

Your most obedient servant,

A. Edlin.

P. S. Much about the same period Mr. Parry, a tobacconist in the Borough, met with a similar accident; but I did not learn how it terminated.

Art. 8. *A Letter from* Dr. Mossman, *of Bradford, on the Brunonian System.*

Although it is not consistent with our plan to insert communications which are *merely critical*, yet, out of respect to the motives which have influenced the author of the following letter, we have given it a place in this number.

To the Editors of the London Medical Review and Magazine.

Gentlemen,

YOUR last number exhibits an analysis of a work entitled, "A View of the Science of Life, on the Principles established

established in the Elements of Medicine, of the late celebrated John Brown, M. D.—By Wm. Yates and Charles Maclean." The joint production of those gentlemen I have never seen, nor am I ambitious to be acquainted with it: I am fully satisfied with the detail of the cases before me. The quotations, however, which you have brought into view, are really of so singular a complexion as to induce me almost to believe that the ostensible authors must be fictitious names *.

Am I to suppose that men would rashly sport with so sacred a trust, as the application of an art which embraces a very large portion of the destiny of their fellow-creatures? Or am I to conclude that the work in question is a pitiful effort of ignorance and folly to doom to contempt the monuments of departed genius? If there be a practitioner who will throw into the stomach every hour five hundred drops of Laudanum, and administer the same quantity by glyster, and accompany this practice by the daily exhibition of two or three bottles of wine; if he give a scruple of calomel and six grains of opium every hour; and follow up this Herculean experiment by the tremendous artillery of two ounces of mercurial ointment and four ounces of calomel, applied by friction;—to such a man I would say, "Thou shalt do no murder."

I know that the assailants of the BRUNONIAN SYSTEM have often pretended, that this doctrine rejected the applications of every power, except those denominated *stimuli*; and in support of this assertion it is convenient to appeal to the inconsiderate practice of a half-instructed disciple. It is surely much to be lamented that the memory of an unfriended, unfortunate physician, and his doctrines, should be subjected to obloquy and abuse; because they are cari-

* Dr. Mossman may rest assured that the authors' names are not assumed, but real.

catured by men palpably incapable of appreciating the value of either.

Mr. Charles Maclean (who seems to possess all the enthusiasm of Don Quixote, without the advantage of his understanding) is confirmed in a belief that the whole mystery of Brunonism consists in the profuse application of stimulant remedies; the cases of his friend the Ensign, labouring under symptoms of brainular concussion, and of R. Williamson, afflicted by a violent attack of peripneumony, are my vouchers:—the former was plied with opium and wine; he did recover:—the latter was liberally dosed with opium and calomel; the event was fatal. Pluming himself, no doubt, upon the escape of the Ensign, he triumphantly asserts, "that there is not an inflammation, with which we are acquainted, that is not to be cured (as far as it is curable) by the application of stimulant powers;"—"and that blood-letting has never been useful in any one case of disease." Permit me to contrast those strange opinions with the judicious practice of a great man: "Cum igitur vehemens diathesis, (says the enlightened Brown,) ut in *peripneumonia, phrenitide, rubeola,* et *erysipelate grave cum capitis affectu,* cernitur, ad auxilium potentissimum et celerrimum protinus fugiendum, *sanguinis*que non tantum primo, quantum multis, qui soli fere ei curationem credunt, sed plus tamen, quam aliis placet *detrahendum.*"—And again, "Hoc facto primaque morbi fracta violentia, deinceps *ad alvi purgationem,* proximum usu remedium, *transeundum:* ad quod præstandum, *non violentia,* qualia multi olim secuti sunt, utpote quorum *stimulus,* primum opus comitans, *noxæ esse posset:* sed *leniora,* quales *sales neutri,* maximeque *Glauberianus verus,* habentur, quæ *summopere debilitant,* et *magnam vasis humoris abstrahunt vim,* tractanda." He carries the matter still farther, and observes, "Post adhibita quæ relata sunt, auxilia, symptomatis redintegratis, idem medendi rursus obeundus ordo, *sanguis rursus mittendus, alvus purganda,*

ganda, refrigerare corpus, et *per inediam attenuare, non desistendum,* eaque omnia, donec symptomatum tumultus componatur, et salus, saltem pro tempore, reponatur, forsitan *tertio,* vel *amplius,* persequenda."

I ought to apologize to you for the length of this letter; but had I abridged the quotations from the *Elementa Medicinæ,* my paper would have been incomplete. I hope you will insert it in your next number; and consider it not as an animadversion upon the publication of Messrs. Yates and Maclean, but as a justifiable attempt to rescue from misrepresentation the most prominent feature of a system of medicine practically recognised by a very respectable proportion of the professors of the art.

I am, Gentlemen, with much respect,

Bradford, Yorkshire, Your most obedient servant,

July 17th, 1799. GEORGE MOSSMAN.

Art. 9. *A Case of Presentation of the Chin towards the Sacrum, during Labour; delivered by natural Efforts.* Communicated by Mr. PEARS.

To the Society of Physicians and Surgeons.

GENTLEMEN,

YOUR circular letter having given a polite invitation to communicate such original cases as might casually occur, I take the liberty of submitting to your inspection the enclosed, which, for rarity of occurrence and successful termination, may not perhaps be unworthy of notice: it was *a face case, with the chin towards the sacrum, delivered by natural efforts.*

On Thursday, July 19th, 1798, Mrs. W. had labour-pains, beginning in the usual manner from the back. They continued, with intervals, until nine or ten o'clock in the evening, being mistaken for the cramp, which had prevailed much during the latter months of pregnancy. A

draught

draught had been taken with success upon such occasions, and was now tried: it was made in the following manner: ℞ Tinct. valer. vol. ʒj, Tinct. opii gutt. xxx, Aq. menth. pip. ʒjß, M. cap. j pro re natâ.

The patient retired to bed, but was obliged to arise about eleven, finding a difference in the nature and continuance of the pains. They recurred frequently, with increased severity; and between one and two in the morning of Friday (the 20th instant) I was desired to see the patient. Arriving about two, I found, upon inquiry, that the bladder and bowels were in a proper state, but no visible indication of labour had appeared. After the recurrence of a few pains, which were somewhat severe, though abating in their frequency, (as every practitioner knows is often the case upon his first arrival,) I examined, and found that no preparatory lubrication had disposed the vagina, &c. for delivery; the os uteri being hardly dilated.

At seven o'clock I examined again, and found the vagina somewhat lubricated. Other particulars as before, though severe pains had recurred about every two minutes.

At nine, the lubrication was much increased. The head was descending very slowly: the membranes, being entire, were broken, as impeding parturition.

At ten, the head was low enough to discover its being a *face* case. Feeling a projection in the centre, and tracing it upward, the nostril extremity ascertained it to be the nose. Passing the finger farther towards the pubis, the rotundity of the parietals was discovered, with the great fontanel. Thence sliding the finger back over the side of the head, the ear was distinctly traced, both towards and from the face. Bringing the finger to the nose again, I passed it down the filtrum into the mouth, where the tongue was evident; and the under lip in short folds resembling toes. Going onward to the chin, a difficulty occurred from some hard substance pressing closely upon it:

supposing

supposing this to be the shoulder, I endeavoured to ascertain it by the shape of the joint, but found it was the foot; the toes being distinctly pressed upon it, with as much of the foot as I was able to reach, when the hand was extended to the os calcis.

The situation being thus clearly ascertained, the prospect of a difficult and dangerous labour occurred; for though I expected the chin would be projected, yet, as a fair case for instrumental help, the neglect might have induced blame from some persons. The lever seemed likely to produce a more favourable situation, by bringing down the occiput, and making it a vertex case; but as one was not immediately to be obtained, and the position gradually altering, the alternative of turning presented itself, to prevent danger. This, however, was found impracticable, from the descent of the head, and the impossibility of securing the feet, in their present situation.

The pains now recurred in a very speedy and violent manner. They were likewise improved by the patient. *Excessive* pressure was made on the perineum, requiring an equal counterforce to prevent rupture. These efforts continued so long, and were so severe, without producing any very sensible effect, while the child's face was pressed against the sacrum and coccygis, that I was apprehensive of its causing death. Continuing to increase in frequency, violence, and duration, each being also improved by the patient's efforts, the head was expelled about twenty minutes after eleven in the forenoon, and the body came away by the same exertion.

The child was very thin, long, and poor. The eyes large, red, and greatly swelled; the upper lip large, and considerably swelled also, projecting much in the centre, and standing hollow from the gum in an apex. This, together with the chin, and lower part of the face, was become black, from the long-continued pressure before delivery.

Every

Every medical reader being able to supply his own comment on the above, I shall omit saying any more, than to subscribe myself,

Borough, July 1799. CHARLES PEARS.

Art. 10. *Observations on the Epidermis of the human Subject.* By M. CHAPTAL.

[From the 26th Volume of the Annales de Chemie.]

THE human skin becomes shrivelled in hot water, and divides itself into two distinct parts, the *epidermis* and the *cutis*. The latter resembles then in its consistence a softened cartilage. The continued action of warm water at length dissolves the cutis, but does not sensibly affect the epidermis. Alcohol kept a long time in digestion on the epidermis likewise produces no effect. Caustic alkali dissolves it, and the same effect is produced by lime, though more slowly. There is then an analogy between the external covering of the human body and that which covers silk. From these observations we are authorized to deduce the following consequences, which may be applied, without overstraining the principle, to the operations of tanning.

1. If we plunge into a tanning infusion a piece of skin covered by its epidermis, the tan penetrates only on the fleſh-side: the other side is secured from it by the epidermis, which is not susceptible of any combination with the tanning principle. 2. When the epidermis is removed by the operation of liming, the tan then penetrates on both sides of the skin. 3. Lime, which is generally employed for taking off the hair, seems to act only by dissolving the epidermis.

The second plate (Mr. Clemison's Artificial Leg and Arm) is to face page 495.

THE

LONDON MEDICAL REVIEW

AND

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ACCOUNT OF NEW PUBLICATIONS.

ART. I. *Descriptive Account of a new Method of treating old Ulcers of the Legs.* By THOMAS BAYNTON, Surgeon, of Bristol. The Second Edition, enlarged, corrected, and considerably improved. Octavo, pp. 152. HURST, London. 1799. Price 3*s.* 6*d.*

THE frequent disappointments Mr. Baynton had experienced in his endeavours to obtain permanent cures for some patients, for whom he had tried the usual means recommended by writers, induced him to adopt a new method, which he had published in the year 1797. The present performance is a second edition of that work, with some few alterations. As many of our readers may be yet unacquainted with Mr. Baynton's method, we deem it our duty to give, even at this late period, an analysis of its contents.

Rest in an horizontal posture, exercise, precipitate, bandages, &c. having failed, "*I determined,*" says the author, "*on endeavouring to bring the edges of those ulcers which might in future be placed under my care, nearer together,*

by means of slips of adhesive plaster; having frequently had occasion to observe that the probability of an ulcer continuing sound depended much on the size of the cicatrix which remained after the cure appeared to be accomplished: and believing also that the natural shield of the part, the true skin, afforded a much more substantial support and defence, as well as a better covering, than the frail one supplied by nature in the common methods of cure. I had also in view to lessen the probability of ulcers breaking out again, which might be healed by the means I proposed to make trial of, as well as an expectation of being able, if the application could be borne by my patients, to gain some time in the cure. Though I expected to obtain some of these advantages, I did not venture to hope that a mere slip of adhesive plaster applied in a *particular* way, would prove the easiest, most efficacious, and most agreeable of all applications to a wound so proverbially irritable as an ulcer; much less could I expect that it would lead me to the discovery of a method of curing with ease, diseases which had so long exercised my patience, and defied my industry. It had never in that species of sore, I believe, been tried; therefore it is not remarkable, though every surgeon must acknowledge his obligations to it in *recent* wounds, that I then adopted it as a doubtful remedy. Opportunities to try it were not long wanting; and although the cases which first presented were of an unfavourable description, I had the pleasure to perceive that it occasioned very little pain in the application, sat easily upon the wounds, gave my patients great satisfaction, and in every instance materially accelerated the cure. I had also the pleasure to observe that the chief purpose of its application was obtained, namely, that the *size of the cicatrices were less* * than they would have been, had the cures been performed by any of

* The cicatrices were less in size.

the

the common methods. My success, however, did not seem quite perfect, as I was not able in many instances to remove the slips of plaster without displacing some portion of the adjacent skin, which, by occasioning a new, though very trifling wound, I feared might prove a disagreeable circumstance in a part so disposed to inflame and ulcerate, as the vicinity of an old sore, in a situation so far removed from the source of circulation. I therefore endeavoured to obviate that inconvenience, in the cases which next presented, by keeping the plasters and bandages well moistened with spring water some time before they were removed from the limb. I had the satisfaction to observe it was then prevented, and that every succeeding case justified the confidence I began to place in the remedy. I discovered also that moistening the bandages was attended with other considerable advantages, that my patients were rendered much more comfortable in their sensations while the parts were wet and cool, that the surrounding inflammation was sooner removed, and that many persons who could not bear the application of a tight bandage in a dry state, submitted to it without inconvenience, or complaint, when it was kept moist and cool."

Mr. Baynton at first enjoined his patients to keep the affected part as much at rest as possible; but many were, from the nature of their occupations, obliged to stand and walk a considerable part of the day, and their cures he found were accomplished in less time than the cures of those who were confined to their bed, the copious discharge being reduced in a few days to the quantity afforded by healthy sores, and the foulest and most fœtid ulcers being restored in the same space of time to a healthy and healing condition, when the plan was accompanied with exercise. The progression of the cure is uniform, the pain is abated in a few days, the callous edges are soon levelled to the surface of the sore, and the advantages gained are always

preserved until a cure is completed. The author then proceeds to describe the means whereby these advantages were obtained.

" The parts should be first cleared of the hair sometimes found in considerable quantities upon the legs, by means of a razor, that none of the discharges by being retained may become acrid and inflame the skin, and that the dressings may be removed with ease at each time of their renewal, which, in some cases where the discharges are very profuse, and the ulcers very irritable, may perhaps be necessary twice in the twenty-four hours, but which I have in every instance been only under the necessity of performing once in that space of time.

" The plaster should be prepared by slowly melting in an iron ladle a sufficient quantity of litharge plaster or diachylon, which, if too brittle when cold to adhere, may be rendered adhesive by melting half a drachm of resin with every ounce of the plaster; when melted it should be stirred till it begins to cool, and then spread thinly upon slips of smooth porous calico of a convenient length and breadth, by sweeping it quickly from the end held by the left hand of the person who spreads it, to the other held firmly by another person, with the common elastic spatula used by apothecaries; the uneven edges must be taken off, and the pieces cut into slips about two inches in breadth, and of a length that will, after being passed round the limb, leave an end of about four or five inches. The middle of the piece so prepared is to be applied to the sound part of the limb, opposite to the inferior part of the ulcer, so that the lower edge of the plaster may be placed about an inch below the lower edge of the sore, and the ends drawn over the ulcer with as much gradual extension as the patient can well bear: other slips are to be secured in the same way, each above and in contact with the other, until the whole surface of the sore and the limb is completely covered,

vered, at least one inch below, and two or three above the diseased part.

" The whole of the leg should then be equally defended with pieces of soft calico three or four times doubled, and a bandage of the same about three inches in breadth, and four or five yards in length; or rather as much as will be sufficient to support the limb from the toes to the knee, should be applied as smoothly as can be possibly performed by the surgeon, and with as much firmness as can be borne by the patient; being passed first round the leg at the ankle joint, then as many times round the foot as will cover and support every part of it except the toes, and afterwards up the limb till it reaches the knee, observing that each turn of the bandage should have its lower edge so placed as to be about an inch above the lower edge of the fold next below. If the parts be much inflamed, or the discharges very profuse, they should be well moistened and kept cool with cold spring water poured upon them as often as the heat may indicate to be necessary, or perhaps at least once every hour. The patient may take what exercise he pleases, and it will be always found that an alleviation of his pain, and the promotion of his cure, will follow as its consequence, though under other modes of treating the disease it aggravates the pain and prevents the cure.

" These means, when it can be made convenient, should be applied soon after rising in the morning, as the legs of persons affected with this disease are then found most free from tumefaction, and the advantages will be greater than when they are applied to limbs in a swollen state. But at whatever time the applications be made, or in whatever condition the parts be found, I believe it will always happen that cures may be obtained by these means alone, except in one species of the disease which seldom occurs, but that will hereafter be described. The first application will sometimes occasion pain, which, however, subsides in a short

short time, and is felt less sensibly at every succeeding dressing. The force with which the ends are drawn over the limb must then be gradually increased, and when the parts are restored to their natural state of ease and sensibility, which will soon happen, as much may be applied as the calico will bear, or the surgeon can exert; especially if the limb be in that enlarged and incompressible state, which has been denominated the scorbutic, or if the edges of the wound be widely separated from each other."

Should it be feared that the skin, in the vicinity of sores, will be broke by the degree of extension that is required, the author recommends the defending of the part, previously to the application of the adhesive slips, with a small shred of soft leather; and when the parts are much inflamed, the secretions great, or the season hot, he says that the frequent application of cold water will be found a valuable auxiliary, and may be always safely had recourse to where the heat of the parts is greater than is natural, and the body free from perspiration. Mr. Baynton's opinion concerning the mode of operation of this method of cure follows, with a few observations on cold water, recommending its use in preference to all other applications in inflammations; and the pamphlet concludes with some cases of almost every variety of ulcer, and letters from Mr. Home, surgeon, of London, Messrs. Henry and Simmons, of Manchester, Mr. Sandford, of Worcester, and Mr. Schute, of Bristol, all bearing very honourable testimony of the means recommended by Mr. Baynton.

"*Ulcers in a progessive or disturbed state.*

"*Case* 1.—Mr. Briant, aged forty, a respectable farmer, applied in March 1793, with a wound two inches long upon the right leg a little above the ankle joint: it had been received three months before by the kick of a horse. The surrounding parts were greatly inflamed, the edges and surface of the sore in a state of sloughing, the discharge sanious,

nious, and the pain upon taking exercise very great. The nature of his occupation made him solicitous that the cure should be accomplished without confinement. It was attempted by means of poultices, fomentations, and the different digestive applications, upwards of a month, without the least permanent advantage.

" On the 15th of the following month the adhesive application was had recourse to, not only with the above described disadvantages, but the addition of a sinus, which took the direction of the joint. The prepared pieces of calico were applied with their middle parts a little below the ulcer, on the sound part of the limb, and the ends drawn lightly over the ulcer and sinus, so as to bring the retracted edges a little nearer together, and to afford a moderate degree of support to the diseased and adjacent parts; pieces of doubled calico were then applied neatly over the limb, to defend it from the partial action of the roller, and to retain the water I intended to apply. A bandage of calico, of sufficient length to support the limb from the toes to the knee, was carefully applied, so as to give support without offending by its pressure; and the parts directed to be well wetted with cold water poured from a tea-pot as often as they became hot, or at least every hour.

" At my visit the next day I was informed the pain had been less violent. The wound appeared considerably better, and I was enabled, in consequence of the diminished sensibility, to bring its lips nearer together, and to increase the pressure. The same plan was daily pursued, and by the 20th the sloughing was completed, the sinus nearly obliterated, and the size of the ulcer considerably reduced. The same means were continued till the 30th, with daily increase of pressure, and careful endeavours to bring forward and cover the wound with the old skin: the cure at that time appeared to be perfected, and the dressings were discontinued.

" *Case*

" *Case* 2.—William Radford, a trow-man, aged sixty, received a kick upon the middle part of the tibia, in the Christmas week of the year 1792, which merely broke the skin. His situation in life did not allow him to pay much attention to it, and from that time to the beginning of May 1793, an ulcer had been gradually increasing.

" On the 5th he made application to me, having with much pain and difficulty walked to my house. At that time the ulcer was about the size of a half-crown, and of an oval form. Its surface was very irregular, and covered with pointed eminences of unhealthy flesh: the edges and surrounding parts were greatly inflamed, and his pain, when he began to take exercise, scarcely tolerable. The discharge profuse, and of a thin bloody appearance. The same means were immediately had recourse to; and though the patient walked a considerable way every day to be dressed, in less than a week his pain had ceased, the discharge became healthy, and the wound had a granulating appearance. The same means were persevered in, and his cure accomplished in thirty-two days from the date of his application, without any internal means.

" *Case* 3.—William Jenkins, aged thirty, requested my assistance in May 1793, for an ulcer two inches in length, on the outside of the right leg, a little above the projection of the fibula. It had been occasioned about a month before by the wall of a fold falling, within which some sheep were confined. Upon the occurrence of the accident, he applied to a professional gentleman in the neighbourhood, who directed him to poultice it and give it rest; which for some time was in part complied with, without advantage. Other means were then had recourse to, with no better effect; and he becoming impatient on account of his business, which suffered from his indisposition, I was consulted.

" The wound appeared to be in a sloughing state; its surface dead; its edges inflamed; and its sensibility very

great; the discharge was profuse, thin, and of the colour of coffee-grounds.

"The adhesive application and other described means were again had recourse to, with similar effect; his cure being accomplished, without confinement, in a month.

"The preceding cases prove that this method of treating *recent* ulcers, in a progressive state, is not only admissible, but highly advantageous. Numerous instances of its efficacy in this stage of the disease might be adduced; but as such would swell the work without increasing its value, I shall barely remark, that only two failures have occurred in the treatment of many whose ulcers were in that state. These were young healthy persons, with small ulcers on the shins, distinguished by no peculiarity, except a few very small pustules, and an inflamed state of the skin some inches round the ulcers, with a detachment of the cuticle to the same extent, by a secretion of pus from the inflamed surface. One of them, a young lady, could bear no application unless in a horizontal posture, and the cure was obtained by the mildest dressings and rest. The other, a gentleman now under my care, who has been my patient only a week, but for whom the dressings were used some days without advantage, and whose aversion to confinement is very great, has had an opening draught given him, and been enjoined to avoid high living and much exercise. Though he has not been able to bear his accustomed exercise under this method, and I have in consequence considered him as an instance of its failure, I believe with the above-mentioned precautions his cure will be accomplished by it in a few days.

"These cases, however, render it probable that disappointments may be experienced in this state of the disease, and that absolute rest, with the mildest applications, may sometimes prove necessary; but as such occurrences will be very rare, and as the described method will be found successful

cessful in by far the greater number of cases, it should, I think, be always first tried.

"*Case* 4.—Mr. ——, an eminent and respectable tradesman of this city, had been afflicted with ulcers of his legs from some cause with which I am unacquainted, many years preceding that of 1790, when I was first consulted for him. Both his legs were greatly increased by the deposition and inspissation of lymph which was not absorbed when the limbs were rested; and the system of veins appeared in as diseased a state as the absorbents, all those in view being in a broken state.

"My attendance was continued eighteen months, and it was observed that his wounds were always improved by rest, and rendered irritable by exercise or irregularity. One peculiarity often occurred, and greatly surprised me, as I was not acquainted either with its nature or cause; it was the appearance of dark-coloured spots on different parts of both limbs, which frequently appeared when the cure appeared to be nearly, and sometimes quite completed, and which were immediately succeeded by the giving way of all the old wounds.

"This had been so frequently found to occur under every variety of treatment which seemed likely to prevent it, that I was at last compelled to decline further attendance, and to inform him that I believed palliatives his only resource. His distress, and the hope of experiencing that relief from others which it had been in my power to render him, occasioned his application to others; but I frequently learnt, as my inquiries were often made in my attendance upon his family, that his complaints continued to prove extremely distressing.

"In the year 1793, when my view of the disease was extended by reflection and experience; and when I had become fully sensible of the surprising effects of the new method, I became solicitous to know whether the peculiarities of his

case

ease would yield to it; and accordingly, upon finding he was at that time attended by no other person, made him a tender of my services, which he declined, from having somehow learnt I was in the habit of applying water to such diseases, and being prepossessed with the idea that his complaint depended upon humours.

"In the year 1796 he sent for me, and said he was resolved to submit to amputation, if he could not be speedily relieved by other means. His legs had considerably more ulcerated surface than sound skin, the discharge was incredibly profuse, and the attendant heat greater than I had ever witnessed, though the ulcers did not extend much deeper than through the true skin. The same means were immediately had recourse to, and it was necessary, on account of the extent of disease, to apply the plasters from the toes to the knees; and cold water every half hour, as he could only obtain ease by its constant application.

"The relief was more remarkable than had ever been observed. In three or four days the pain ceased, the discharge abated, and the wounds began to cicatrize; in six weeks they were nearly healed; when he requested me to discontinue my attendance, as he said he chose to keep open those small wounds, and knew he should be *compelled* to receive a cure if the plan was not changed.

"A recurrence to ointments several times occasioned his ulcers to increase and the contiguous parts to become again inflamed. The removal of morbid heat by the application of water, with the use of the plasters, in each instance speedily improved and lessened the ulcers, and removed the inflammation.

"The dark appearances which usually preceded ulceration, I now believe to have been occasioned by the deposition of blood, which neither the veins or absorbents in their impaired state could carry away. When the vessels were thus supported, neither discolouration or ulceration

again occurred, which could not have been prevented by common bandages, as the parts were always too irritable to bear their tight application.

"*Ulcers became stationary or indolent.*

"*Case* 7.—Hannah Webb, aged thirty-two, servant to Josiah Hill, Esq. of Bedminster, applied to me by the desire of her master, on the 24th of November 1792, for the cure of two ulcers on the left leg: one upon the outer and lower edge of the soleus muscle, about two inches long, an inch wide, and very deep: the other a little below the external malleolus, an inch long, half an inch wide, and of a triangular form.—The edges of both were callous, the discharge thin, and surrounding parts much inflamed. She had been afflicted with them two years, and had been twelve months under the care of a surgeon in the neighbourhood, who, by her account, had tried every remedy except absolute rest in bed, without any advantage.

"The adhesive plaster spread upon slips of calico was applied, with the middle of the pieces opposite to the ulcers, and the ends drawn *firmly* round the limb, over the ulcers, so as to bring the retracted edges nearer together. The diseased parts were then defended by pieces of soft calico; and a bandage of the same was applied spirally, with *firmness*, round the limb from the toes to the knees. She was directed to keep it constantly well wetted, and to take what exercise she pleased. At my next visit, the 25th, I was surprised by the change which had taken place in only twenty-four hours: the edges were reduced, the discharge better, the inflammation less, and she said she had experienced more ease than had been known in the same space for many preceding months. She was dressed every day in a similar manner; and by the 9th of the following month, a period of only fifteen days, both wounds were perfectly cured.

"*Case* 8.—Jane Powell, aged twenty-seven, was taken

under my care on the 14th of August 1796. She had an ulcer on the outside of the left leg, two inches and a half in length, two inches in breadth, and very deep; the discharge was thin and profuse, the edges callous, and the surrounding inflammation considerable.

"She was dressed as usual, and in less than five weeks was cured, with little more remaining cicatrix than would have occurred if the parts had been recently divided, and again united by the first intention. This disease had been nearly in the same state fifteen months. She had been in an hospital eighteen weeks, and had been discharged from thence without relief.

"*Case* 9.—William Preen, of Tetbury in Glocestershire, aged forty-nine, applied to me the 25th of April 1794, with two ulcers on the outside of the left leg; one about three inches in length, the other somewhat less than two. Both were rather long than broad, and in so bad condition, that a stream of pale, thin, offensive discharge escaped, when the dressing was removed. He appeared emaciated, and said he had received the assistance of several eminent practitioners, and had been under the constant care of some surgeon the greatest part of the preceding five years. He subjoined also, that he had lived very freely, and should continue to do so, 'that he could not eat, therefore would 'drink.'

"He was dressed as usual, and after very strict directions as to temperance, was directed to call on me the next day; he did so, and the wounds in that short period were manifestly improved. In a few days his ulcers became healthy sores, his pain and every other inconvenient symptom left him, and by the 24th of the next month (May) he was perfectly cured; when he very candidly told me, 'I had 'cured him in despite of himself; that he had lodged at 'an inn the whole time he had been under my care, had 'drank freely every day, and been intoxicated every night.'

"The

" The ulcers of the last three persons were situated in yielding parts, and the skin upon their limbs loose and free: to those circumstances may be ascribed the performance of the cures within periods so limited. The exercise they took previously to their application to me, kept their wounds in a painful state, and the irregularities of the last patient occasioned his to appear extremely irritable; but the disturbance was not sufficient to occasion the absorption of the callous edges, or the extension of the sores; and it appears that the processes of re-union and skinning, which were both necessary in the latter case, could not be prevented by the irregularities of the patient, when the retracted skin was brought forward, and the other means applied which have been so often recommended.

" *Ulcers attended with a diseased state of the veins.*

" *Case* 13.—Mr. Joseph Hancock, a respectable farmer of Uphill in Somersetshire, applied to me on the 1st of July 1797, with a triangular ulcer on the inner ankle of the right leg; it succeeded a fever, had been of ten years continuance, and resisted the skill of two eminent surgeons, a year each. The muscles and skin upon the leg were so much relaxed, and so very yielding, that it was extremely difficult to secure any bandage upon it. The veins were greatly enlarged, and apparently much more numerous than are usually observed. The discharge was generally thin, and supposed by the patient to be of a corrosive nature, as a burning sensation was felt upon the wound after exercise or irregularity. The pain upon standing or walking, and frequently when at rest in bed, was very considerable on the inside of the leg, in the direction of the veins. The inflammation, though sometimes extensive, appeared to be confined to the skin; and, when most violent, was attended with pimples which itched much, and afforded a briny discharge. These pimples, together with the itching, generally affected, in a greater or less degree,

other

other parts of the surface of the body, when the limb was in a bad state, and induced him to suppose all his symptoms were occasioned by acrid humours, so that he could scarcely be made to believe any remedies would assist him, which had not a tendency to amend the condition of his blood.

"The adhesive application was had recourse to, when the disease was in its worst state. His relief was immediate, and the cure perfectly accomplished by the time he had made me four or five visits, which, in consequence of his residing at the distance of twenty miles, were not repeated oftener than twice or three times a week. He was directed to give his limb the constant support of a bandage: and has never since experienced the eruption, briny discharge, or any of those symptoms upon either the leg or the surface of the body, which had so many years occasioned inconvenience and distress.

"*Case* 15.—Mrs. ——, aged forty, the widow of an innkeeper, applied, in August 1797, with an ulcer above the inner ankle of the left leg. It had been of many years continuance, and had resisted every method which could be devised by different surgeons. The veins were in a very enlarged and diseased state, the limb extremely soft and flabby, and the pain upon standing or walking very great. The ulcer was of the size of a shilling, its edges thick and callous, the discharges varying in appearance according to the exercise taken; and the other symptoms so like those of the two preceding cases, as to make it unnecessary to repeat them.

"The cure was performed in five weeks by the same means. This patient was not freed from pain when the wound was healed, though the calico bandage was continued, but was rendered perfectly easy by the application of adhesive, completely over the limb, from the diseased part to the distance of eight inches above it. Her cure continues permanent.

"The

"The pustulous eruptions and itching, which sometimes affect the surface of the body, whilst wounds continue open, or parts remain in a diseased state, are common, not only to persons affected with sore legs, but to many who have any cause of irritation applied to a part of the surface of the body; they are frequently occasioned in so great a degree by the mere application of a blister, as to produce all the effects and appearances of erysipelas, with which they are analogous, if not identical, each being an inflammation of a particular part, the true skin, and alike soonest relieved by means most effectual for the cure of that symptom in other parts, namely, abstraction of heat, bleeding, and low living. As long as a disease remains upon any part of the surface of the body, there will be a risk of the return of inflammation, and with each return there will be a degree of constitutional disturbance which may be again often removed by the cure of the inflammation; it is frequently accomplished by the suppuration of the parts: this has furnished many persons with an argument against the propriety of healing ulcers upon the legs, whereas it appears only more fully to establish the impropriety of leaving any exciting cause upon parts so liable to disturbance and inflammation; the general affection of the skin being a mere effect of the disease of a part, and those sympathetic affections of the stomach and constitution so much dreaded, but which have in no instance been observed by me where the cures have been completed, being a mere consequence either of renewed inflammation upon the part, or of the extension of its effects by sympathy, or otherwise, when that happens over the surface of the body. For these and other reasons before delivered, it has long been a practical rule with me, to consider my undertaking as incomplete until every probable cause of the return of inflammation or of the increase of debility has been removed from the general seat of these diseases: it has not happened in a single instance,

stance, that any effects have been observed, which disprove the propriety of that conclusion; whereas it has often happened, when the patients' fears have induced them to keep open small ulcers, that the accidental disturbance of them, or their change from a healthy to an irritable state, has affected the constitution by sympathy, so as to have produced heat, thirst, quick pulse, and all those other symptoms of indisposition which would have attended inflammation in any other part.

"*Ulcers distinguished by diseased appearance of their edges and of the adjacent skin.*

"*Case* 16.—Elizabeth Morris, aged sixty, has been servant in a family with whom I am well acquainted, many years, and has merited the character of a correct, steady person. In July 1798, she applied with many small ulcers on both sides of the right leg, above the ankle, not larger than the diameter of a divided pea or vetch. They did not extend deeper than the true skin; their edges were ragged; their sensibility considerable; the surrounding skin deeper coloured than is commonly observed, and the cuticle detached to a considerable extent, by a secretion from the skin, of a fluid which resembled pus diluted with dirty water. The appearance of the ulcers will be best understood by their near resemblance to those sometimes met with upon the membranes of the mouth, and other secreting surfaces. The cicatrices of some which had been healed remained of an unusually dark colour, and appeared to be rather pitted or below the surface of the adjacent cuticle. She was dressed six weeks with the adhesive, and part of that time water was also applied; nevertheless her cure was not advanced, though the application did not occasion pain, or appear to disagree. At the end of that time she was directed to take one grain of calomel night and morning, and was dressed as usual with the adhesive. In the short space of one week her mouth became affected; she nevertheless

theless continued the medicine, and in another week was perfectly cured.

" Only two similar cases have occurred in my practice: those bore so exact a resemblance to the above, except that some of their ulcers were larger, as to make description unnecessary. One of them was a steady man about fifty, the other a very respectable farmer's wife about the same age. Each tried the adhesive, &c. without either good or bad effects, until calomel was had recourse to, when the cures were speedily accomplished, with no other application than the adhesive.

" The freedom of these persons from other symptoms of indisposition, their age, and the respectability of their characters, render it certain that their diseases were unconnected with any consequences which arise out of irregularity; though the appearances of their ulcers, and the effects of the remedy, might induce suspicions of the contrary, in minds unacquainted with the peculiarities of their diseases, and their characters.

" *Recent ulcers occasioned by the effects of heat.*

" *Case* 17.—Mr. William Davis, aged sixty-five, in his employment at a sugar-house, had the misfortune to scald the inside of his right leg with boiling sugar. It was treated some days by one of my assistants with oily applications, without any advantage; I then directed that the parts should be kept constantly cool, by means of linen cloths frequently moistened with water. The inflammation under this treatment soon became diminished; but at the end of a fortnight, a part, nine inches in length and four in breadth, was covered with a slough about the thickness of a crown, which did not seem likely to be removed under a considerable length of time. I had just then been favoured with a letter from Mr. Simmons of Manchester, wherein he says, speaking of its effects upon burnt parts, 'In certain degrees 'of either of these accidents, the common integument

'merely

'merely is destroyed; after the separation a large ulcerated 'surface is left, and the granulations shoot up so luxuriantly, 'that the cure becomes not only tedious but difficult, and 'requiring the use of painful dressings: by applying the 'PLASTERS, so as to procure a level surface, the skin will 'be seen shooting over in a beautiful manner, and will be 'accomplished in a short time, compared with the usual 'course in such cases.' They were immediately adopted, and the observations of that ingenious surgeon confirmed by the event, the sloughs being separated, and the whole extent of ulcerated surface perfectly healed in sixteen days, seven only of which he was confined to his bed, and the latter nine employed in the business of boiling sugar.

"This case would more properly have been inserted with the account of recent ulcers in a state of progression, but having by accident been omitted, it is placed here, as well to acknowledge what is due to the gentleman whose letter occasioned its trial in this case, as to afford another instance of its efficacy, in a disease which, considering the patient's unfavourable age, could not, I believe, have been cured by other means, within many months.

"*Weakness of the absorbents, occasioned by a fracture of one of the bones of the leg.*

"*Case* 18.—Mr. Arthur Palmer, aged seventy-eight, a respectable servant of the Duke of Beaufort, at the coal-mines near Bristol, fractured the small bone of his left leg, a little above the ankle, by a fall from his horse, in August 1798. He was taken home, and the cure of the fracture accomplished in six or seven weeks. Being very corpulent as well as aged, it was observed that the injured leg swelled to more than twice its natural size, when allowed to hang a few hours over the side of the bed; this was in vain attempted to be prevented by the support of a long calico bandage after the limb had been rested a considerable time, which, though carefully applied and frequently renewed,

occasioned so much pain and inflammation, when the leg was put to the ground, as not to be borne. No chance of relief remained from other remedies in common use without confinement; and it appeared from what had been observed in similar diseases attended with such disadvantages of age and bulk, that there was the greatest probability of his continuing a cripple a considerable length of time, or for the remainder of his days.

"The reasons which have been stated for the application of the adhesive in other cases, occasioned its adoption here. It was had recourse to after the patient lay a night in bed, and the absorbents had been enabled to remove the deposited lymph, which increased the size of the limb. It was so used to include and support every part from the toes to the knees, with but little more pressure than was afforded by the common integuments in a healthy state. The happiest effects were observed immediately; the return of swelling was effectually prevented, and in a week he was enabled to ride on horseback, and attend his business. He had the plasters renewed only twice, and recovered without further confinement or any other application." C. A.

ART. II. *A Treatise on the Venereal Rose.* By WM. BUTTER, M. D. Fellow of the Royal College of Physicians, and Member of the Medical Society, both of Edinburgh. Octavo. pp. 78. CADELL and DAVIES, London. 1799. Price 3*s*.

THE present pamphlet is written in a style of great confidence, and is prefaced by the following remarks:

"In the following pages *I have destroyed one of the props of merciless imposture*, by giving a suitable definition and description of the venereal rose, by elucidating its true nature, and by adapting thereto a method of cure, simple,

simple, safe, and certain; *without a chance for any of the bad consequences that have hitherto so frequently occurred in practice.* I say *without a chance* for any of those consequences, provided that the patient can strictly conform to the rules laid down."

Dr. Butter considers the virulent gonorrhœa as a species of erysipelatous inflammation; and as common erysipelas has been by some writers denominated *the rose*, he calls this *the venereal rose*. The singularity of this new term is sufficiently obvious, and its propriety will, no doubt, be disputed by many. In order to justify this application of it, Dr. B. mentions seven characters of erysipelas, and points out the coincidence he imagines to exist between the two diseases; but they evidently differ much even in several of these. His method of cure consists principally in the exhibition of cicuta pills three times a day; taking care to guard against costiveness, and to suspend the scrotum and testicles in a bag truss from the very commencement of the disease. He thinks no external means are wanted, except a bag truss and the patient's own urine; and that internal medicines make the indispensable part of the treatment. This, however, must be understood only of the simple *venereal rose*; for when it is combined with chordee, swelled testicle, &c. other remedies are also necessary; but these symptoms, Dr. B. supposes, are almost always to be attributed to mismanagement.

The pamphlet is concluded with particular directions for the preparation of the hemlock pill, on the exhibition of which the author chiefly relies. The formula is the same as was published in his Treatise on the Kinkcough.

Cicuta may, doubtless, be a very useful medicine in many cases of gonorrhœa, by lessening the irritability of the system, and of the urethra: but we do not believe it is always necessary, nor always useful; and we fear the opinions inculcated in this tract, though not altogether

undeserving of notice, are calculated to give an impression concerning the nature of the disease, which facts will not fully justify. Q.

ART. III. *Pharmacopœia Chirurgica; or Formulæ for the Use of Surgeons: including, among a Variety of Remedies adopted in the private Practice of the most eminent of the Profession, all the principal Formulæ of the different Hospitals.* The fourth edition, corrected and enlarged. Duodecimo. pp. 204. ROBINSONS, London. 1799. Price 3*s*.

THIS Pharmacopœia will be found, by young surgeons, to be one of the most useful pocket companions in the English language. The formulæ it contains are select, and sufficiently numerous; the remarks of the author are generally judicious; and the present edition, in various respects, is superior to the former. T.

ART. IV. *Dr.* WILLICH's *Lectures on Diet and Regimen.*

(Concluded from page 487.)

IN the fifth chapter, *of food and drink*, Dr. Willich observes, "by the usual mode of dressing victuals they lose a considerable part of their nutritious quality, and become thereby less digestible. *Raw meat* certainly contains the purest and most nourishing juice. We do not, however, eat raw flesh, but there are some articles which are frequently consumed in a state approaching to that of rawness. Such are the Westphalia hams, Italian sausages, smoked geese, salted herrings, and the like. Various modes of preparing and dressing meat have been contrived, to render it more palatable, and better adapted to the stomach. By exposure to the air flesh becomes more soft, which obviously

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is the effect of incipient putrefaction; for, by this process, the volatile particles of an ammoniacal salt are disengaged, and it is rendered more agreeable to the taste. Pickled and smoked meat, as is very commonly used in the northern and eastern countries of Europe, acquires an unnatural hardness, and communicates a great degree of acrimony to the fluids of the human body. By *boiling*, flesh is deprived of its nourishing juice, as the gelatinous substance of the meat is extracted, and incorporated in the broth; and thus it is converted into a less nutritive, and more oppressive burden for the digestive organs; because the spirituous and balsamic particles are too much evaporated during the boiling. The *broth*, indeed, contains the most nourishing part of it, but it is too much diluted to admit of an easy digestion. A better mode of dressing meat is *roasting*, by which its strength is not so much wasted, and the spirituous particles cannot so easily evaporate; a crust is soon formed on its surface, and the nutritive principle is better preserved. Hence, one pound of roasted meat is, in actual nourishment, equal to two or three pounds of boiled meat.

" The boiling of animal food is frequently performed in open vessels; which is not the best method of rendering it tender, palatable, and nourishing: close vessels only ought to be used for that purpose. The culinary process called *stewing* is of all others the most profitable and nutritious, and best calculated to preserve and to concentrate the most substantial parts of animal food.

" When we expose articles of provision to the fire, without any addition of moisture, it is called *baking*. That such articles may not be too much dried by evaporation, they are usually covered with paste. Thus the meat, indeed, retains all its nutritive particles, becomes tender and easily digestible; but the paste is the more detrimental to the stomach, as it generally consists of an undue proportion of butter,

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which cannot be readily digested in that state. When meat is *fried*, it is in some degree deprived of its substance; but, if the fire be strong enough, a solid crust soon forms on the surface of the meat, by which the evaporation is greatly prevented, and the flesh rendered mellow: the butter, or other fat, required to prevent its adherence to the pan, gives a burnt, or empyreumatic taste, and prevents its easy digestion in the stomach.

"Vegetables, upon the whole, are more difficult to be digested than hard and tough animal substances, which from their nature are more speedily assimilated to the body; but the flesh of young animals, with a proportionate quantity of wholesome vegetables, is the diet best adapted to our system. The flesh of fattened cattle is by no means wholesome; these animals lead a sluggish and inactive life, as they are surrounded in their dungeons by a bad and putrid air, consequently they cannot prepare fluids sufficiently healthy for the stomach.

"Though fat meat is more nourishing than the lean, fat being the cellular substance of animal jelly, yet to digest this oily matter, there is required, on account of its difficult solubility, a good bile, much saliva, and a vigorous stomach. To prevent its bad effects we ought to use a sufficient quantity of salt, which is an excellent solvent of fat, and changes it into a saponaceous mass.

"Luxury has introduced an unnatural operation, which makes the flesh of certain animals at once delicate and nutritious; but still more wholesome is the flesh of the same animals, in their unmutilated state, before they have been suffered to pair. The mucilaginous and gelatinous parts of animals alone afford nourishment; and the more of these there are contained in the meat, it is the more nourishing. We find mucilage to be a principal constituent in vegetables, and jelly or gluten in animal bodies: hence farinaceous substances contain the most of the former, and

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the flesh of animals most of the latter. A substantial jelly, as for instance that of calf's feet, is more nourishing than a thin chicken broth; but it is at the same time more difficult to be digested.

" It is advisable, in summer, to increase the proportion of vegetable food, and to make use of acids, such as vinegar, lemons, oranges, and the like; the blood being in that season much disposed to putrescency. The man who continually takes nourishing food is liable to become fat and plethoric; as, on the contrary, the miser, or the religious fanatic, from their abstinence, become thin and lean: hence the medium, or a proper mixture of both, seems to be most conducive to health. I cannot sufficiently recommend the following rule to those who are frequently troubled with a craving appetite: the more food the stomach demands, it ought to be the more sparingly furnished with strongly nourishing substances, in order to avoid obesity or fatness; and much vegetable food is in this case required, to counteract that disposition to putrescency, which the frequent eating of nutritive substances necessarily occasions. Yet there are people who feel the sensation of hunger in a remarkable and painful degree, which generally arises from too much acid being generated in the stomach. A vegetable diet would be prejudicial to such individuals; they ought to increase the proportion of animal food; and dishes containing oily substances, in general, agree well with them. Bread and butter is useful to such persons, in order to neutralize their acid acrimony, and at the same time to change the fat into a more soluble saponaceous substance. The cause of this acid, however, is most frequently a weakness in the stomach, which cannot be cured in any other manner than by strengthening bitters, and articles of nourishment, that are mildly astringent, and promote warmth in the intestines; and in this respect, cold meat, as well as drink, is preferable to hot.

" The jelly of animals being the very substance which again restores the solid parts, is obviously serviceable and necessary to nourish the human species. As, however, each kind of animal has its peculiar jelly and fat, which then only can nourish us, when assimilated to our nature by the digestive organs; as, besides, the different parts of animals require different degrees of digestion, it will be necessary to enter into more minute inquiries respecting these particulars.

" Experience informs us, that the flesh and intestines of young animals afford a thin, easily digestible, and nutritive jelly. Old animals, hard and tough flesh, cartilages, sinews, ligaments, membranes, membranous thick intestines, and the hard parts of the legs, produce a viscid jelly, which is difficult to be digested and assimilated to our fluids. The more healthy the animal is, the stronger will be the jelly, and the more nourishing its fluids. The most nutritious flesh is that of animals living in the free air, having much exercise, and a copious mass of blood; and particularly, if they are kept in dry and warm places. The alkali contained in the flesh of carnivorous animals is the cause of the bad nourishment it affords, and of the injurious consequences attending its use. From the similarity in the structure of quadrupeds to that of man, it may be easily conjectured, that their jelly is most resembling ours: and of these it is allowed, that such as are fed upon milk give the best nourishment; that the flesh of female animals is easily digested, but less nutritious than that of the castrated males, which in every respect deserves the preference. After quadrupeds, we may class birds, as furnishing us with better nourishment than fishes; next to them, amphibious animals; and lastly, insects.

" As animal food is strongly nourishing, it generates blood, fat, and spirituous particles, in much greater quantity than vegetable. The example of carnivorous animals

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proves, that the feeding upon flesh gives spirit and strength, heats the body, and preserves the solids in a lively motion. For these reasons, much animal food is improper for those of a full habit and abundance of blood, for febrile patients, and those who are disposed to hemorrhagies, or losses of blood. The phlegmatic, on the contrary, and those of thin watery fluids, and a weak digestion, may with safety eat more animal than vegetable food.—Of the different kinds of flesh, game is most heating; that of young domestic animals least: for instance of calves and chickens, particularly when they are eaten with vegetable substances containing an acid, such as greens, asparagus, &c. That animal food disposes to putrescency, I have before remarked; hence it ought to be sparingly used in summer, and in hot climates. Persons, whose fluids already shew a putrid tendency, who are reminded of it by frequent eruptions of the skin, or who are already corpulent, should abstain from a too copious use of animal food.

"I have also observed, that the flesh of carnivorous animals has an extraordinary tendency to putrefaction, as is obvious from the fœtid perspiration of such animals; that it contains an acrimony and alkalescency, foreign to our nature; and that it affords no mild nutriment. Much less disposed to putrefaction is the meat of granivorous animals, as partaking more of the vegetable principle; and though it be less nourishing, and less abounding in spirituous particles than the former, yet it supplies us with a milder and more readily assimilated aliment.

"The flesh of fishes, being, like the element in which they live, most distinct from the nature of man, is of all others the least nutritive and wholesome.

"The tame quadrupeds that suck the mother's milk, if they rest too much and are quickly fed, do not afford a good and well-prepared aliment. In animals which have tender muscles and little exercise, those parts are probably the

most wholesome which are more moved than others, such as the legs and head.

"Poultry, upon the whole, furnishes us with the best meat, as it has the most excellent and well-digested fluids, by its more frequent exercise and constant residence in the open and pure air. Some animals when young possess tough and spongy flesh, which is mollified and improved by age, and can be eaten only after a certain time, or even after several years; such as eels and carp. Others are hard in their youth, and must be used early, because that hardness increases with their age; as the haddock, and many other fishes.—The flesh of old animals, that have less muscular parts than the young ones of the same species, is indigestible. Lastly, we may lay it down as a general rule, that the more readily the flesh of an animal is disposed to undergo putrefaction, it is the more unwholesome."

The author then treats on veal, beef, pork, milk, cabbage, lettuce, and the common articles of food. Concerning drinking, Dr. Willich says, "it is perhaps more necessary to the support of animal life than eating; for drink is indispensable to the digestion and solution of food. Those who drink too little, people, for instance, of a sedentary life, and particularly women, are subject to complaints of indigestion. Sufficient drinking prevents the incrassation of the blood, and the obstruction of the smaller vessels; it tends to clear the blood of the acrid particles generated in it; it promotes the necessary secretions, such as the bile and the gastric juice of the stomach.

"We ought properly to drink only when we are thirsty, and to give over when thirst is quenched: but this is seldom the case, since many of our liquors stimulate the palate. Pure water, therefore, is an inestimable beverage, as it will not induce us to drink more than is necessary. We should drink in a greater proportion than we eat; for the quantity of our fluids by far exceeds that of the solids,

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and consequently there must be secreted more fluids than solids. The general rule may be given, to take about double the proportion of liquid to the dry food; but this cannot be accurately observed, nor is it a general rule in all cases. The season, the weather, cold, heat, the nature of our food, the greater or less degree of our exercise, require more drink at one time than at another. Thirst, however, is as good, if not a better guide than hunger; and he who is accustomed to drink water only, will not easily transgress the measure, if he drinks as often as nature calls upon him. With a proper choice of food, every body would drink conformably to his wants. Hence, it is needless to recommend the drinking of water to people who will not be persuaded to change their irregular mode of eating.

"The more we eat in quantity, and the drier our victuals are, the more we ought to drink. The phlegmatic have less inclination to drink than those of a sanguine and choleric temperament. The laborious ought to drink more than the sedentary; and still more in summer than in winter, to supply the humours lost by insensible perspiration.

"In the morning when we rise we generally feel an inclination for drinking, which is relieved by tea, coffee, or other warm liquors. Water would unquestionably be a more proper beverage at this time; and I venture to say, it would be disagreeable to those only, whose stomachs are spoiled by the habitual use of warm liquors and hot rolls. A glass of pure fresh water, and, a while after it, a piece of bread with some fruit, or even butter, would afford a very wholesome breakfast, by which the stomach and the intestines might be cleared, the blood and humours refreshed, and the whole body strengthened. If the stomach be not loaded with mucus, or otherwise corrupted by tippling, a bason of sweet cow's milk, with a piece of stale bread, is an excellent breakfast in spring and summer.

"To drink immediately before a meal is improper, be-

cause the stomach is thereby swelled, and rendered less fit for the digestion of food. Hence, to avoid the necessity of drinking, it is advisable not to take any violent exercise shortly before dinner. To drink much at night, previous to our going to bed, is likewise hurtful. But the drinking immediately before a meal is more noxious than at any other time, because the stomach is thus filled with the liquid we swallow; the bile and the gastric juice there collected are too much diluted, and consequently the important office of digestion is checked. To drink much during the time of taking food is also objectionable; as the stomach is thus rendered incapable of receiving the due portion of aliment. Cold beer or water does not well agree with warm victuals; and the teeth are injured by taking hot and cold substances in immediate succession. In the hot weather of summer it is scarcely possible to delay drinking till the dinner be finished; and it is the more necessary, or rather the less hurtful, at this time, as the bile which serves to dissolve the victuals then requires greater dilution. In winter, unless we eat very dry and salted provisions, we feel less inclined to drink at table. But if we must drink in the intervals of eating, it would be most conducive to digestion to drink water only, which being drunk in small quantities, will not inundate the stomach; and it is more proper during the time of eating, for this reason, that it agrees with all dishes without exception. Yet a glass or two of wine during dinner is proper and conducive to digestion. Some advise never to drink without eating something; but he who drinks only when nature requires it has no occasion to eat every time he drinks. Those, on the contrary, who are once accustomed to drink more than is necessary, or to make use of hot, stimulating, and intoxicating liquors, would do well to eat always some bread or other solid food along with them. Properly we ought to begin drinking only after our appetite is satisfied, and then

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it should be done gradually during digestion. This function may be disturbed by large draughts of liquor, which occasion fermentation and flatulency. Glass is the most proper substance for drinking vessels; for none but the fluoric acid will affect it. For the sake of delicacy, as well as from a necessary precaution to health, every person at table ought to be furnished with a separate glass or other vessel for his drink.

"Much drinking loads and oppresses the stomach, as it distends it too much; but it is not nearly so hurtful as too much eating. Every beverage relaxes the stomach, and persons whose bowels are not sufficiently elastic, should be careful in the quantity they drink; for an immoderate proportion of it may weaken digestion, dilute the fluids too much, and conduct the food too quickly through the alimentary canal. An undue portion of drink renders the mass of the blood too thin and watery; from a thin blood arises also a weak alimentary fluid, consequently a general debility of the body; and the urinary and other passages are thereby relaxed.

"On the other hand, too little drink is equally improper; digestion is weakened; many parts of victuals remain undissolved, and are not conducted to the lacteals, because the proper means of diluting them are wanting; the blood becomes thick and viscid; finally, the secretions and excretions are not duly performed, because the different canals are too dry and shrivelled."

The qualities of the various kinds of water, wine, beer, tea, coffee, &c. are detailed, and the chapter concludes with a classification of the various articles used as food, drink, and spices, according to their individual salubrity.

"I. FOOD.

"DIVISION FIRST,—*Alimentary Substances containing wholesome Fluids.*

"CLASS I. Articles affording strong nutriment.

"ORDER

"Order I. Vegeto-farinaceous substances.—Genus i. With soft juicy fibres. 1. *Such as contain a saccharine matter;* as the skirret or sugar root (*Sium Sisarum*, Linn.) the common carrot, beet, and polypody-root (*Polypodium vulgare*, L.)—2. *Sweetish substances affording a tender farina, or meal;* as the parsnip, the turnip-rooted cabbage (*Napobrassica,*) the colewort (*Caulis rapicios,*) viper's grass (*Scorzonera*, L.) the goat's-beard, or salsafy (*Tragopogon pratense*, L.) the Solomon's seal (*Convallaria Polygonatum*, L.) parsley-root, asparagus, turnips, and potatoes.—Genus ii. *Substances affording flower, or those of a viscous earthy consistence;* viz. all species of grain, as wheat, rye, barley, oats, buck-wheat, millet, maize, or Indian-corn, the chickling-vetch (*Lathyrus tuberosus*, L.) and the like.

"Order II. Gelatinous animal substances.—Genus i. *Of a soft and juicy muscular substance;* viz. veal, lamb, young beef, mutton, pork, venison, turtle, hare, rabbits, badgers, domestic fowls, pheasants, partridges, the greater number of land-fowl, oysters, small lobsters, and fresh eggs.—Genus ii. *Of a hard and tough consistence;* viz. all the animals before mentioned, when old; as well as the bustard, the starling, the woodpecker, the sparrow, the goose, the duck, the lapwing, muscles, snails, crabs, hard boiled eggs, &c.

"Order III. Fat, or butyro-oleaginous substances.—Genus i. *Of the sweet kind;* viz. cacao, sweet almonds, walnuts, hazel-nuts, water-caltrops, chesnuts, beech-nuts, cashew-nuts (*Anacardia,*) pistachio-nuts, wild pine-apples (*Karatas,*) milk, and fresh cheese.—Genus ii. *Of the bitterish and tart kind;* viz. bitter almonds, acorns, all the seeds of fruit, and olives.

"Class II. Weakly nourishing substances.

"Order I. Those of a viscous and watery consistence, or whose vegetable mucilage is diluted with much water.—Genus i. *Of a sweet taste;* viz. melons, and many species

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of pears and apples, sweet citrons, lemons, oranges, figs, mulberries, raspberries, sweet grapes, cherries, and plums; jujube-berries, dates, &c.—Genus ii. *Of a sweetish taste;* viz. Green peas and beans, white cabbage, cauliflower, spinach, orach, blite or strawberry-spinach, cucumbers, and gourds.—Genus iii. *Of a compound sweet and bitter taste;* viz. the succory, the rampion (*Phyteuma*, L.) the borage, the saw-wort (*Serratula*, L.) the young shoots of hops, the sow-thistle (*Sonchus*, L.) the hedge-mustard, artichokes, capers, the brook-lime, endives, and lettuce.—Genus iv. *Of a mildly sweetish and spicy taste;* viz. celery, angelica, shepherd's-needle (*Scandix cerefolium*, L.) fennel, and the common balm (*Melissa officinalis*, L.)—Genus v. *Of an acrid taste;* viz. radishes, turnip-radishes, horse-radishes, tarragon (*Artemisia Dracunculus*, L.) scurvy-grass, and rue.—Genus vi. *Of an acid taste;* viz. sorrel (*Rumex acetosa*, L.) purslane (*Portulaca*, L.) sour citrons, lemons, limes, cherries, plums, &c.—Genus vii. *Of a vinous quality;* viz. all sweet apples, particularly rennets, apples of Borstorf, and some few varieties from America; the pine-apple (*Ananas,*) the honey or paradise apple, shaddocks or sina-apples, bramble-berries, straw-berries, whortle-berries, goose-berries, currants, grapes, apricots, peaches, and nectarines.—Genus viii. *Of a tart and astringent taste;* viz. all the wild-growing apples and pears, quinces, cran-berries, red whortle-berries, bar-berries, the green summer and winter pears, sour apples, medlars, the fruit of the dog-rose or hip-tree, and of the service-tree, sloes or the fruit of the black-thorn, and the green Brasilian plums.

"Order II. *Those of a gelatinous watery consistence.* To this order belong all the various species of fishes.

"Division Second.—*Alimentary Substances containing unwholesome Fluids.*

"Order I. Those of an acrid nature.—1. *Coarsely viscous*

and saline substances; viz. all salted and smoked animal food, both of quadrupeds and fishes. — 2. *Putrescent or easily putrescible substances;* viz. the ram, the he-goat, the bull, the otter, water-fowls, the blood of animals, roasted eggs, tainted eggs, and lastly, all the flesh of wild and tame animals kept too long, with a view of making it more tender.—3. *Substances of a furry and leathery appearance, or such as discover a suspicious acrimony;* viz. truffles, morels, and all kinds of mushrooms.

" ORDER II. *Those of gross fluids, or of a coarse earthy consistence;* namely, the various fruits obtained in husks, such as dried peas, beans, lentils, and the like.

" II. DRINK.

" (A) WATERY LIQUORS.

" I. *Simple, or uncompounded;* namely, all kinds of common water.

" II. *Mucous-watery-spiritous.*—1. All *fermented* liquors known under the name of beer or ale.—2. *Spicy-balsamic* liquids; such as the vernal sap of the birch and maple-trees, as well as the artificial preparations of tea, coffee, and chocolate.—3. *Sweetly-acidulated;* namely, lemonade, orgeat, mead, must, and the like.

" (B) SPIRITOUS LIQUORS.

" I. *Distilled;* namely, all kinds of ardent spirits, from whatever grain or vegetable substance they may be prepared.

" II. *Fermented:* All kinds of wine.—1. *Sweet wines;* those of Hungary, Spain, Italy, Greece, and the Cape wine; as likewise all wines made of currants, raisins, &c.—2. *Slightly acidulated wines;* among which Champaign, Rhenish wine, or old hock, and that of the Moselle, are the principal.—3. *Acid and tart wines;* to which chiefly belong the wines of Franconia and Saxony.—4. The *acidulated sweet wines;* such are most of the French wines, and particularly claret; and lastly,—5. The *sharp and astringent wines*; the chief of which are the wines of Oporto and Burgundy.

" III.

"III. SPICES.

"1. Of the *sweet* kind; such as sugar, honey, manna, and the inspissated sap of the maple and beech-trees.—2. Of the *acid* kind; namely, the juice of citrons, lemons, unripe grapes, &c.—3. Of the *saline* kind; namely, common salt, whether obtained in a solid form as rock-salt, or from the evaporation of the sea and salt-springs. Lastly,—4. Of the *pungent and balsamic* kind; such as garlic, shalot, onions, chives, nutmeg, mace, pepper, pimento, cubebs, vanilla, cardamoms, bay-berries, juniper-berries, ginger, calamus, cloves, cinnamon, saffron, caraway, coriander, fennel, parsley, dill, sage, marjoram, thyme, penny-royal, mugwort, hyssop, peppermint, and rue."

The remaining chapters, "On Exercise and Rest;"—"Sleeping and Waking;"—"Evacuations by Stool, Urine, and insensible Perspiration;"—"The Sexual Intercourse;"—*and* "Organs of Sense;" teem with the common observations relating to each department.

The twelfth, and last chapter, contains some practical remarks and rules relative to the treatment and preservation of the eyes.—The following are the author's *dietetical precepts respecting the eyes in general.*

"Above all things, we must observe the old rule; to try carefully what best agrees with us, and to attend to moderation and regularity in our manner of living.

"Smoking tobacco, and taking snuff, are injurious; as by either practice the eye is too much stimulated. It is a vulgar error, that people cannot leave off these improper habits without injury to their health. They may be safely abandoned at once, though occasionally prescribed as medicines.—Tobacco has only been known in Europe since the beginning of the seventeenth century, and was long merely a luxury. This plant is now much abused; and those who are once accustomed to it cannot leave it off without great resolution. To such persons it does not afford

relief as a medicine; their olfactory nerves have become almost insensible to its stimulus. As a medicinal remedy, it serves to draw superfluous humours from the head. But in those who make an extravagant use of this herb, especially in snuff, it imperceptibly weakens the nervous system, and particularly the power of memory.

"After meals, and after the above stated bathings, it is beneficial to the eyes to remain in the open air, to direct our looks to a grâss-plat, or to divert them with some amusing employment.—Some pretend to have observed, that their eyes are not so strong after they have eaten weak soups or broths, as after solid food: they further affirm, that their sight is more improved after a meal consisting entirely of vegetable aliment, than after a very moderate portion of animal food. These observations are far from being unimportant, and, if fully confirmed by experience, they may throw some light on the dietetical treatment of the eyes—a branch of medicine that has hitherto been too much neglected. A short sleep after dinner can only be advantageous to the eyes of those with whom this practice does not disagree; at all events, the eyes ought to be protected from daylight, which would hurt them more than they can be refreshed by a short slumber. The particular rules respecting this practice I have stated in the seventh chapter. The steam of boiled coffee, gently applied, has also been recommended to weak eyes after dinner; but nothing has a more salutary tendency in this respect, than to go to bed at an early hour: for most people impair their sight by heavy suppers and heating liquors, so that their eyes remain inflamed till next day. The same, indeed, is also the case with those who indulge too much in sleep.

"A pure serene air is an essential requisite to the preservation of the eyes. Fœtid exhalations sometimes affect the eye immediately; hence we should avoid the putrid effluvia from marshes and ditches, or other places in which

the air is saturated with noxious vapours; for instance, the vicinity of colour-shops, hartshorn-distilleries, and the like. It is, perhaps, unnecessary to point out every species of mephitic vapours to be shunned as the enemies of sight; yet it deserves to be remarked, that the exhalations of horse stables are injurious, while the stalls, and other places where cattle are kept, are far less hurtful. Lastly, the galleries of churches, as well as the higher boxes and galleries of play-houses, are the most pernicious places, as the vapours ascending from a great number of people assembled below, are extremely detrimental to sight.

" On the other hand, the frequent enjoyment of a pure and fresh air, the occasional resort to elevated situations, nay, even the exposure to a moderate wind, are means of improvement. The more vigorous species of bodily exercise also are in a certain degree useful; provided we do not exert the eye by reading, writing, &c. before the circulating fluids are reduced to their proper medium.—The application of electricity, which has benefited many weak eyes, by its fluid being conducted through a wooden point, is somewhat analogous to the going and standing against the wind; as it probably operates more by the gentle vibrations of the air, than by the communication of the electric fluid itself.

" To read in the open air is hurtful to sound, and still more to weak eyes, unless the light of a clear day be modified at least by the foliage of a tree from above; yet even here the vivid stream of light surrounding the book is still fatiguing.

" The greater or less interest we take in our employments is of considerable importance to the organs of sight; particularly if they be in a weak state. The more alluring a book, or other exercise, is, the longer we are able to continue it. Hence the important rule: to spare the most interesting labours for the half-wearied eyes; yet, with prudent severity, always to appoint a task: for, without this,

this, the eyes, though at a later period, will inevitably experience more or less injury from such practices.

" The state of the weather also greatly influences the power of vision. Persons troubled with weak eyes should therefore not be alarmed, if, in a tempest or thunder-storm, in rainy, foggy weather, their sight be less acute.

" Such individuals are easily affected by standing too long on cold or damp ground, by too light dress, and particularly by too thin covering of the legs and feet.

" Riding on horseback is beneficial to weak eyes, as is also walking, and riding in carriages. The principal advantage in all these exercises is, perhaps, derived from employing the eye with a great variety of objects, none of which occupies our attention too long.

" Lastly, persons having black eye-lashes generally possess greater powers of vision than those whose eye-lashes are of a light colour; because the former afford a better screen for the eye, and reflect no light from their outside, by which the image on the retina could be rendered weaker and more indistinct.—MONTALDUS gives an account of a person whose eye-lids and eye-lashes were completely white; who consequently saw but indifferently in the day-time, but much better in the evening and at night. This man happened to be taken prisoner by the Moors, who dyed his eye-lids black, by which his sight was much improved: but, as soon as the colour was lost, his vision also became weaker.—Dr. Russell mentions, in his History of Aleppo, that the Turkish ladies usually dye the inner side of their eye-lids black, not for the sake of ornament, but with a view of strengthening their sight. It has further been observed, that when we lose the eye-lashes, as is often the case in the small-pox, the sense of vision is thereby considerably weakened. For a similar reason, the hair combed down the forehead, if of a dark colour, will assist the sight as well as any other contrivance over the brow.

" *Some*

"*Some additional Rules addressed to those who are obliged to make use of Eye-glasses.*—The cases in which eye-glasses may be used with advantage are nearly the following: 1. When we are obliged to hold small objects at a considerable distance before we can distinguish them. 2. When, in order to discern objects, we require more light than usual; for instance, when we are obliged to place a candle between the eye and the object; for this is one of the most destructive practices, by which the optic nerves and muscles uncommonly suffer; and, as the eye employs itself with the object in proportion to the degree of light reflected upon it, the pupil ought likewise to dilate accordingly; but, instead of which, it is forced to contract, on account of the too powerful light produced by the intermediate candle. 3. When a near object, upon accurate and attentive examination, becomes obscure, and begins to appear covered, as it were, with a mist or fog. 4. When, in reading or writing, the letters seem to flow into one another, and look as if they were double or treble. 5. When the eyes are easily fatigued, and we are obliged from time to time to shut them, or to direct them to fresh objects for the sake of relief.

"In the choice of spectacles we need not attend so much to their magnifying power, as to the circumstance of their agreeing with our sight; that is, when they enable us, clearly and without exertion, to see at the same distance, in which we formerly were accustomed to read or work. Hence we ought out of a number of glasses to choose those, which afford the best and clearest light in every state of the eye. But, if a person be short-sighted, he should choose a second glass, magnifying a little more than the other, but somewhat less distinct, yet so that it may not disfigure the object. This is unpleasant at first, but the eyes in time accustom themselves to it, and daily improve. If, after some time, we make use of less con-

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cave glasses, there is no doubt that in the course of a few years, according to particular circumstances, the defect of short-sightedness may be gradually removed.

" He who observes this regular gradation with his spectacles may preserve his eyes to the latest period of life. But we should not make these changes too rapidly, lest the aid of art be too soon exhausted, and the wearer of glasses perhaps be unable to find any of sufficient magnifying powers. It is further a hurtful practice, to use any other but our own glasses, to which the eye has been accustomed: every irregularity is injurious; and the preservation of the eyes depends chiefly on uniformity with respect to glasses, as well as to the light in which the organs of sight are exercised.

" In using one glass only, people accustom themselves to neglect one of the eyes; and, on this account, spectacles are preferable. Yet both glasses must be separately fitted to each eye, and by no means promiscuously used; for this would increase the evil.—If, however, we make use of one glass only, each of the eyes ought by turns to be habituated to it.

" Many persons wear glasses in the evening, and can dispense with them in daylight. This is rather a dangerous practice; and, if it be not too late, they should choose a second pair of glasses, somewhat more magnifying, and to be used by candle-light only. In this manner, the retina would receive an equal portion of light at one time as well as another, and the eye longer preserve its vigour.

" *Green glasses* are said to be most suitable to the eye, since they modify the impression of light on the retina. Though this be in a great measure true, they cannot be indiscriminately recommended, and certainly not to such as have weak eyes. Green is indeed soothing to the eye, more than any other colour; but, at the same time, it somewhat darkens the objects, especially at first. Those of a vigorous

sight

sight only should make use of them as preservatives, especially by the fire or candle-light. But, if white or light-coloured objects appear red, after having used green glasses for a short time, we should discontinue their use; as this phenomenon is a certain proof that they will in the end destroy the eyes. If the green colour does not in two or three days become imperceptible, but appears constantly upon the paper as it did at first, it is a farther criterion that the use of them is improper.

" Many give the preference to large reading-glasses, in order to avoid wearing spectacles. It is, however, obvious, that it must be a pernicious practice to keep the eyes in constant exertion, as is the case here, where every motion of the hand and the head necessarily alters the distance. In addition to this inconvenience, the dazzling splendour of the rays, reflected from the surface of the glass, weakens the eye to such a degree, as to render the use of spectacles ultimately indispensable, with this only difference, that the eyes require greater magnifying powers than might have been necessary without this depravation.

" Hence spectacles are in every respect preferable; as they are not only more conformable to the nature and mechanism of the eye, but also more convenient: they are uniformly placed before the objects by the imperceptible motion of the head; they leave the space between the object and the eyes open and free; and being generally not so thick, and lying at a uniform distance before the eye, they present the objects more clearly and distinctly than reading-glasses.

" Those who have weak eyes ought not to employ themselves, even occasionally, in a manner that may be fatiguing to the sight. Particularly hurtful are those occupations in which one eye only is exerted, and must consequently be placed in positions different from those of the other eye, which is at rest. For this reason, the use of magnifying

glasses, of whatever kind, is more pernicious to weak eyes, if we always use the same eye and purposely shut the other, than if we could alternately make use of either. On this account microscopical investigations are less hurtful, if, while one eye be employed, we can keep the other open.

"We should not make too frequent trials to discover whether we have improved in sight, or not; for the exertion necessary upon these occasions is uncommonly stimulating and harassing.

"Spectacles ought to be used only for the purposes they are designed; namely, in such employments as require the assistance of art, and where the eye is always kept at an equal distance; for instance, in reading or writing. We should not without a full trial make choice of a pair of glasses, nor be satisfied with those, which, at first trial, exhibit the objects clearly and distinctly. For things will not always occur at the same distance before us, as they appear at the first experiment. It would be proper to try a pair of glasses for a day or two, particularly by candle-light; to use them in that posture of the body to which we are accustomed; and if, with the usual kind of labour, we do not feel our eyes more than usually fatigued, but rather somewhat relieved, we then ought to adopt these glasses. But, as it is next to impossible to meet with a pair of glasses in the shops which fit both eyes, there is nothing more absurd than to purchase spectacles ready made. Certain as it is, it may not be generally known, that there is perhaps not one person among thousands whose eyes are both of an equal size and constitution. For this obvious reason, different eyes should be accommodated with different glasses; and, if we consult our interest in an affair of such consequence, we shall be cautious in selecting for each eye a separate glass. The following advice is submitted to those who have no optician at hand:

"Short-sighted persons, who wish for a proper concave

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or magnifying glass, may take the exact focus, or point of vision, by presenting the smallest print very close to the eye, and gradually removing it as far as the eye can read the letters distinctly, and without the least exertion. When they have accurately ascertained the focus, after frequent trials, let them employ another person to take the measure of this distance with a slip of paper, in the nicest possible manner. An optician receiving this measure, and being informed at what distance the glasses are intended to be used, will be able to judge, in a certain degree, although by no means so accurately as by a personal conference with the short-sighted person.

"Such as observe their eyes to be inclined to far-sightedness, may proceed exactly in a similar manner. But all eye-glasses ought to be furnished with double joints, or springs; as those with single joints are not only inconvenient to the nose, but what is worse, they are apt to shift the point of vision with every motion of the head, and thus injure the eyes.

"Finally, in such occupations as require a more or less extended view of the objects, for instance, in playing at cards, where the distance of the objects must be frequently varied, it would be extremely injudicious to use spectacles; as no eye whatever can bear such exertions without uncommon fatigue. For a similar reason, it is hurtful to these important organs, to keep the spectacles on the head after close work, when, by some accident, we are obliged to search for something dropt, or mislaid. Thus we force the eye to see farther than it is enabled to do by the construction of the spectacles. I need not observe, that many good eyes are spoiled by such imprudent practices."

The author concludes the whole, by giving a few general reflections upon some of the precepts he had particularly insisted on in the body of his work. E.

ART. V. *Remarks on Mr. John Bell's Anatomy of the Heart and Arteries.* By JONATHAN DAWPLUCKER, Esq. Octavo. pp. 68. ROBINSONS, London. 1799. Price 2*s.* 6*d.*

IT was natural to expect that the severity with which Mr. John Bell has treated the writings of his contemporaries would, sooner or later, draw down some angry criticisms on his own. Accordingly, Jonathan Dawplucker, Esq. who, like many other doughty heroes, has obtained his name from his exploits, here undertakes to humble this boastful knight, and to strip him of his honours. In order to do this, he pronounces him a most hardened plagiary, who, like the daw in the fable, shines only in borrowed plumes. He then considers his logic, or his mode of argumentation, which he asserts to be entirely new; and which, therefore, in honour of its author, he has called by the name of JOHNBELLATION.

He divides it into four species; the first is "*negative* and *positive* Johnbellation, or Johnbellation properly so called;" p. 32. "It proceeds upon this postulate, that every proposition may be taken either negatively or positively; consequently, if it be true that combustion and respiration are *the same*, it is true also, according to the principles of Johnbellation, that combustion and respiration are *not the same.*" p. 31.—"The second species is *double* Johnbellation. It consists of making use of arguments which would apply equally well to both sides of the question; and which, of course, serve at one and the same time to prove any thing, and to disprove it.—The third species is *universal* Johnbellation. It is founded on this axiom; whatever mistake has been committed by any one philosopher, who has written upon any particular science, has been committed by all those who have written or studied that science." p. 34.—"The fourth, and last species, is *individual* Johnbellation. It is founded on this axiom; every discovery which has been

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started by *any person*, who has written on any particular science, may be *claimed* and *appropriated* by *any other individual* who is engaged in the same science. By this species of Johnbellation," says the writer, "the description of the valve of Eustachius, given by our author, is *his own*; the account of the irritability of the heart is *his own*; the analysis of the blood is *his own*, &c. &c. &c."

Many other thrusts are made in the course of the pamphlet against the pretensions of this declared usurper; and it will be seen, from the specimens we have here quoted, that Jonathan Dawplucker, Esq. is a sturdy fellow of the choleric temperament. P.

ART. VI. *Number Second; being Remarks on the First Volume of Mr. Benjamin Bell's System of Surgery.* By JONATHAN DAWPLUCKER, Esq. Octavo. pp. 176. London. 1799. No bookseller's name. Price 5*s*.

ALTHOUGH this Jonathan bears the same name as the author of the former article, he is certainly a different person. The writer of the former is evidently very angry; but he is not altogether unmindful of the laws of chivalry and decorum, and he seems to be aware that a little valour may perhaps belong to his opponent: whereas this furious combatant is not content with breaking his adversary's lance, dismounting him from his seat, and throwing him into the dirt; but there he tramples on him, and insults him with reproachful language, without any regard to the eyes or ears of his spectators. Though he certainly possesses a fund of wit and learning, they are stained by vulgar, scurrilous, and indecent expressions; superadded to a degree of rancour, which is, alas! too common in controversial writings.

The readers of this second number will probably be at no loss to guess who is the author. *Ex pede Herculem.* They must, however, regret to see his talents employed in a manner

manner so unworthy of him. Not content with severely criticising the doctrines of the writer he formerly attacked, he has carefully culled out every phrase in which he could discover even a *literal* error; and has marked it by italics, with two or three notes of admiration. The quotations are also followed by insulting comments, and acrimonious reflections. Notwithstanding all this, however, truth obliges us to confess, that many of Jonathan's observations are just; and, were they conveyed in more decorous terms, would not be unworthy of attention. P.

ART. VII. *Der Arzt der Freudenmaedchen und ihre Kunden, &c.*—i. e. *The Physician to Ladies of the Town and their Profession.* Octavo. pp. 138. Bremen. 1799.

IT is with considerable embarrassment we undertake a review of this work, not only on account of the delicacy with which such a production ought to be spoken of, but also because we scarcely know how to reconcile some passages of the book with the author's motives. The nature of the title-page, and the writer's concealment, inclined us to suspect that it contained various pieces of advice by which a most unfortunate, though in general a very abandoned class of females, might facilitate and improve their avocation, and, by pretending to disclose means for preventing or destroying syphilitic affections, might operate as an encouragement to the giddy and sinful. But throughout the work the author expresses himself in strong language against the immorality of unwedded intercourse between the sexes, and informs us that it is his ardent wish to see certain restraints imposed on it. He apologizes for his conduct on the ground that such intercourse does exist; and he offers himself to his fair patients as a friend, to whom, in cases of necessity, they may apply, and by whose precepts and

prescriptions they may cure themselves of the horrid diseases to which they are subject. This curious production then is to be classed among the number of popular works on medicine. If the government and magistrates of many places abroad not only connive at, but really countenance and support brothels, we know not upon what principle our author is to be condemned.

The work contains a very concise, though complete, account of the venereal disease, the mode of detecting it in those who happen to be affected with it, and the means of cure and prevention. The author's opinions concerning the origin of the disease are unsatisfactory. At all times, he says, there have existed diseases which were the effects of venery: these are to be considered as specific kinds of *lues*. The lues which arose in 1493 was of this kind. The hypothesis of Girtanner, that the disease first arose from the bite of some poisonous insect, is not probable. Is it not, he asks, much more reasonable to suppose, that it did not owe its birth to external injury, but to the mixture of the two sexes under peculiar circumstances? For instance, the indiscriminate intercourse of a woman living in a warm climate, and not attentive to cleanliness. On such a principle, he observes, the disease may still arise in a sporadic manner without having been communicated, provided a person be exposed to all the occasional circumstances which are favourable to its production.

This writer informs us that the venereal poison is not volatile, but of a fixed and double nature; one kind producing gonorrhœa, the other, syphilis.

The description of the disease is minute, and drawn up with a view of exciting horror; but it does not contain any thing new or interesting. The same thing may be said of the author's account of the various ways in which the disorder is communicated. He denies, with the followers

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of Mr. John Hunter, that the milk of venereal mothers, or nurses, is capable of affecting a sucking child.

After having treated of the circumstances which favour infection, the author next proceeds to mention the various means which prevent it. These he divides into two great classes, *private remedies* and *political institutions*. The first he again divides into two divisions, *natural* and *artificial* remedies.

Among the natural means he mentions a self-evident fact, which, strictly speaking, is not a remedy; the avoiding those who are infected. This gives him an opportunity of mentioning all the marks by which a man or woman affected with the venereal disease may be known. He enters into this with a degree of minuteness which is disgusting, and which reason teaches cannot be useful; inasmuch as few lovers ever exact, and few ladies will ever admit, so rigorous an examination. He denies that there is any true specific for avoiding the disease; so that we may fairly conclude there is not any practical specific.

Concerning the political institutions which have a tendency to diminish, and at last totally to eradicate this baneful disorder, the observations of the author are very just, though not entirely applicable to this country. If the legislature, he says, had paid as much attention to the subject as medical men have done, within these thirty or forty years, the disease would most probably have been unknown at the present date.

The author concludes his work with an account of the dietetic rules to be observed by syphilitic patients, and he prescribes for them a number of common and easily obtained preparations, for the proper administration of which, however, he advises a physician to be consulted. K.

ART. VIII. *Actes de la Société de Médecine, Chirurgie, et Pharmacie, établie à Bruxelles, sous la Devise Ægrotantibus.*—i. e. *Transactions of the Society of Medicine, Surgery, and Pharmacy, at Brussels, bearing the Motto Ægrotantibus.* Vol. I. Part I. Octavo. pp. 216. An VI. (1797.)

THE Medical Society at Brussels, like most other scientific bodies, owes its origin to the friendly intercourse of a few persons, united by similar pursuits, and desirous to communicate the result of their observations and discoveries to each other. Their numbers gradually increasing, they at length formed themselves into a regular society, to whose talents and exertions the pages before us bear an honourable testimony.

The former part of this volume is occupied by an account of the formation of the Society, the regulations adopted for the transaction of its business, and a list of its members. Then follow the minutes of their meetings (which are weekly,) from the 30th of September 1795, to the 27th of September 1797, inclusive. In these minutes are recorded several valuable communications from foreign correspondents, among whom we find the names of Morveau, Fourcroy, Girtanner, Scherer, &c. A few of these communications we shall insert.

"*Feb.* 10, 1796. M. Morveau informed the Society of the good effects he had experienced from the vapour of oxygenated muriatic acid, in a very obstinate catarrh.

"24. M. Berthollet informed the Society of his discovery, that azotic gas dissolves phosphorus, and thus promotes its combustion.

"*April* 6. M. Girtanner communicated to the Society a discovery, which he thinks he has made, that phosphorus is composed of the same principles as ammonia, that is to say, of azote and hydrogen: that fixed alkalis are composed of carbon and azote, soda with excess of azote, and potash

with excess of carbon; and that the principles of sulphur are carbon and hydrogen.

"20. M. Scherer of Jena informed the Society, that Professor Lowitz had been able to disengage æther by means of sulphuric acid, from all the alcohol with which it may happen to be combined, by shaking it up with concrete muriate of lime, and afterwards distilling it by a gentle heat. Its specific gravity is decreased by this process from 732, at 12° of Reaumur's thermometer, to 716.

"*June* 29. M. Rouppe of Rotterdam writes word, that M. Van Marum having made alcohol pass over red-hot copper, the metal was converted into carburet, and much hydrogen gas disengaged.

"*Oct.* 5. M. Fourcroy informs the Society, that himself, and M. Vauquelin, have found that mineral acids only decompose 0,40 of the earth of bones, or neutral phosphate of lime; that they leave it in the state of acidulous phosphate, which crystallizes in flakes, vitrifies by becoming insoluble and insipid, and the proportions of which are very different from the neutral phosphate. This fact explains why from 100 parts of the earth of bone we only obtain four or five of phosphorus, while it actually contains sixteen. In consequence of this analysis, Messrs. Fourcroy and Vauquelin propose to decompose bone entirely by treating the phosphoric acid which is obtained from it by nitrat of lead, or carbonate of ammonia, and to distil with charcoal, either the phosphate of lead which is precipitated, or the phosphate of ammonia, which lies on the surface of the carbonate of lime after it is evaporated.

"*Sept.* 27, 1797. M. Swediaur, corresponding member at London, sends an account to the Society of the experiments he has made with a view of finding a remedy capable of calling into action the dormant venereal virus. He had observed that the effect of mercury on the body was general debility, with a sort of putrid cachexy, bearing some resemblance

semblance to scurvy; and that in this state the symptoms of lues sometimes completely disappeared, although the patient was not cured. A medicine possessing powers directly contrary to the effects of mercury, that is to say, which is capable of destroying that inactivity of the virus which mercury occasions, might possibly make the symptoms again appear, by renewing its activity. Such a medicine exists in iron and its preparations, the success of which has fully answered the expectations of the honourable member."

1. The first paper which is printed at length is *A Memoir on Hæmorrhage from the Uterus during Pregnancy.* By P. E. Kok, M. D. &c. &c. Secretary of the Society.

In this paper Dr. Kok enumerates the various methods which have been proposed to remedy the complaint on which he treats, and particularly recommends the injection of pure vinegar, or other acids, adding alum, saccharum saturni, &c. according to circumstances, as the most effectual remedy that can be employed. He relates a case of very violent hæmorrhage in the sixth month, which he stopped very speedily by injecting undiluted vinegar. The cure of the patient was completed by bark and elixir of vitriol, and she was delivered of a large healthy child at the full time. A similar case is related by M. Dumont, which occurred in the seventh month, and was successfully treated in the same way. Dr. K. observes, that the syringe used on these occasions should be capable of holding six ounces, and should terminate in a curved canula. When it is used, the patient should lie on her back, with her head and chest lower than the rest of the body, and her knees bent. The syringe should then be made to pass as far up as possible without violence, and the injection should be thrown up three or four times successively, the syringe not being withdrawn for several minutes after each injection.

Dr. Kok also recommends the repeated use of cold injections, made with red port wine, alum, &c. where the

placenta is over the os tincæ. He then enters into a discussion of the question, whether it be best, in delivering such cases, to perforate the placenta, or to detach it, by passing the hand between it and the uterus; and concludes, that sometimes one method is preferable and sometimes the other: but the practitioner must always judge for himself, at the time, which it will be proper to adopt.

2. *A Dissertation on the Preparation of the Muriate of Barytes, and its Use in Chemistry and Medicine.* By J. B. Van Mons, Secretary of the Society, Member of the French National Institute, &c. &c.

M. Van Mons details the various methods which have been employed to obtain the muriate of barytes pure, and after pointing out their defects, he proposes the two following: the first is to be employed when pure spath is used; and the second, when the spath is adulterated by metallic particles. We shall give both the processes, although, in this country, where carbonate of barytes is so easily obtained, they will rarely be found necessary. 1. Take equal parts of saturated carbonate of potash, and ponderous spath, or native sulphate of barytes; let them be mixed by rubbing them together for some length of time, and add 0,05 of water. This mixture is then to be placed over the fire in a crucible, till it melts; as soon it is melted, it is to be removed from the fire, and when cold is to be reduced to powder, and washed with hot water. The powder which remains is then to be treated with twice its quantity of rain-water, and pure marine acid is to be added till the effervescence ceases. The lixivium is then to be filtered, and set by to crystallize. The crystallization is hastened by throwing in a crystal or two of the muriate of barytes; and if the mass be exposed to a very gentle heat, so as to occasion an insensible evaporation of the liquor, the crystals will assume a more regular form.

2. Equal parts of common potash, and impure spath, are to

be calcined with 0,07 of charcoal. As soon as it begins to grow red-hot, it must be removed from the fire, and suffered to cool, and is then to be washed with cold water. It must next be boiled with a very small quantity of caustic alcali, to separate the rest of the sulphur which is mixed with it. It is then to be washed with hot water, saturated with the acid, and crystallized, as in the former process.

The calcined mass must be reduced into a very fine powder, previous to its ablution, otherwise the water will not penetrate it.

The muriatic acid which is employed must be carefully separated from sulphuric acid, by repeated distillation with muriated soda.

The strontian earth is not separable from barytes without great difficulty, because its affinity with acids is almost entirely the same. But the muriate of strontian earth has a greater affinity with water than the muriate of barytes, and hence it crystallizes the last. The two salts may be distinguished by the different form of the crystals, those of the muriate of barytes being square and flat, while those of the muriate of strontites resemble long rays. As they must be carefully separated, all the crystals which have formed when the muriate of strontite first begins to appear, should be taken out and kept by themselves.

Of the chemical and medical uses of this salt nothing is said which will be new to our readers.

3. *On the Cure of Two Fistulæ in the Trachea.* By P. Lassus, Professor in the School of Health at Paris, &c. &c.

The young man who was the subject of this case in a fit of insanity cut his throat, and divided the trachea just below the cricoid cartilage. The surgeon who was first called to his assistance, in sewing up the wound, passed the ligature so, that one or two rings of the trachea were included in the thread; the openings through which it passed remained fistulous, and were surrounded with a considerable induration,

duration, which pressed on the trachea, and created continual sense of suffocation. M. Lassus applied an emollient poultice over the part, which occasioned a copious discharge of matter, and the wound healed in eight days.

4. *On the Abuse of Mucilages in officinal Preparations.* By H. F. J. Gossart, Apothecary and Chemist at Mons, corresponding Member of the Society, &c.

This paper is intended to shew the impropriety of ordering mucilaginous medicines to be kept ready prepared; but the particular remarks do not apply to the pharmacy of this country.

5. *Case of puerperal Convulsions accompanied with Blindness, which made it necessary to bring on Labour immediately.*

In this case the patient recovered her general health, and the sight of the right eye; but the left remained blind.

6. *An Essay on hereditary Phthisis.* By F. Van Stichel, M. D. Licentiate in Medicine of the University of Louvaine, &c. &c.

The author of this paper considers hereditary phthisis as owing either to tubercles in the lungs, or hæmoptysis from an extraordinary tenuity in the coats of the arteries. The latter of these causes, he thinks, may be ascribed to some peculiar fault in the blood, the same with that which produces the rickets early in life. The existence of tubercles may be suspected, 1. When marks of scrophula have appeared in childhood. 2. When the patient becomes short-breathed on walking up an ascent, or in his ordinary exertions, or in damp weather, or when shut in a warm room. 3. When, added to this, a dry, teazing cough comes on, which increases after eating, also at evening, or in the night: and, 4. When, at length, all these symptoms are accompanied by a slow fever.

In proceeding with the history of the disease, the author recommends the method proposed by Dr. Darwin, for ascertaining whether the expectoration consists of pus, or only

only of mucus: *i. e.* to dissolve the sputum in vitriolic acid, or in caustic alkali, and then add pure water. If something is precipitated from each of the solutions, we may be certain that pus has been expectorated. But this, like all similar trials, is of but little use; for it is well known, that mucous membranes, and perhaps none more readily than that which lines the branches of the trachea, will often throw out a truly purulent secretion, without the smallest ulceration on any part of the surface.

Where it is thought probable that tubercles exist, Dr. Van Stichel proposes the following plan of treatment: sea-water is to be taken at the sea-side; and when this cannot be done, he thinks the want of it may in part be supplied by the use of oysters, or muscles, as fresh as they can be procured, for a principal article of diet. Lime and Seltzer waters should be drank occasionally, and small doses of mercurial medicines, with a decoction of dandelion; also to be quiet. Milk he thinks injurious in these cases; and with great propriety he condemns bleeding, the necessity of which may be frequently superseded by pediluvia: but in case of an inflammatory attack, which renders it unavoidable, no more blood must be taken away than is absolutely necessary for present relief. Opiates, the Doctor advises only in the early stages of this species of the disease, before suppuration has taken place, after which he disapproves of their use. Issues, he thinks, are frequently beneficial.

In the latter stage, when hectical symptoms come on, the author recommends a decoction of cinchona, and lichen islandicus, with lime-water; but he thinks the natural balsams too stimulating to be used with propriety. If, however, the fever remit, myrrh may be tried in small doses.

Where the constitution is prone to hæmoptysis, occasional bleeding in small quantities, with a thin diet, the use of milk, and total abstinence from fermented liquors, are

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to be prescribed. If, notwithstanding this, hæmoptysis should come on, inflammation and congestion are to be counteracted by small doses of kermes mineral, given every three or four hours; and when ulceration appears to have taken place, the decoction of cinchona and lichen islandicus is to be prescribed.

On the whole, this paper is well written, and may be read with advantage by the student.

7. *Observations on the Danger of cutting the Hair in some acute Diseases.* By M. Lanoix, Pupil in the School of Health at Paris.

The cases recorded in this paper are remarkable. The reasoning upon them, which follows, is less interesting.

The first case is that of a woman, aged forty-eight, who was admitted into the Hotel Dieu with a nervous fever, which ran on, it is said, to the 42d or 43d day, when the patient began to recover, and every thing soon put on a favourable appearance. In the course of the disease, a number of vesicles were thrown out over the scalp, and a great number of vermin produced. The inconvenience arising from these made the poor woman extremely desirous that her hair should be cut, and her head washed afterward with warm water. This was accordingly done, and she went to bed, without any thing occurring to excite particular attention. In about two hours afterward she was visited by one of the nurses, who observed her countenance to be altered, and on examination found she was dead. Various attempts were made to recover her, but all proved in vain. The physician, M. Montaign, on hearing this account, began to fear that the hasty removal of her hair might have occasioned her death, and desired M. Lanoix to notice any similar occurrence which might happen in future.

Shortly after another woman, about the same age, who had recovered from a putrid fever, was about to return to her friends; but being afflicted by an immense number of lice,

lice, which during the course of her illness had lodged, not only in her head, but almost all over her body, she desired one of the nurses, who unhappily knew nothing of the former case, to cut off her hair, which she accordingly did, and the patient went to bed, much relieved, and fell asleep. In the night she awoke as in a fright, complained of acute pain in the back part of her head, which was accompanied with fever; a slight delirium came on, and was followed by coma. When M. Montaign went round in the morning, finding her in this state, he ordered a blister to the back of her neck and another to her leg, and prescribed some antispasmodic medicines. Toward the evening she appeared relieved, but the coma continued; and in the night the fever returned, and was followed by delirium, hiccough, and death. Strict injunctions were now laid on all the nurses, forbidding them to cut off the hair of any person without the approbation of the physician. However, a young woman, recovering from a fever, had a number of pustules appear on the scalp, which suppurated, and her head was shortly filled with vermin. She, therefore, requested another patient in the same ward, who was unacquainted with the physician's orders, to cut her hair off, which she did in the evening. The next morning her fever increased, an erysipelas speedily covered her head and face, accompanied with a small and weak pulse, and a considerable degree of drowsiness. While no one could give any account of this attack, the physician discovered, from something the patient said in answer to his inquiries, that her hair had been cut off the preceding evening. An emetic was given, and blisters applied to the thighs: the next day the drowsiness was diminished; and shortly after the patient, being confined to a strict diet, and supported by tonic medicines, began to mend, and at length recovered. The discharge from the pustules recommenced as soon as the fever disappeared.

M. Lanoix attributes these unfortunate effects to a sudden check of the discharge from the eruption.

8. *On the improper Use of Vinegar of Squills, and the Efficacy of Camphor in removing the ill Consequences arising from thence.* By M. Van Bavegem, M. D. &c. &c.

A patient, about sixty-eight years of age, who laboured under symptoms of the hydro-thorax, was directed by Dr. Van B. to take some vinegar of squills, beginning by small doses, and gradually increasing the quantity. Her husband, ridiculing the idea of taking "onions and vinegar" by drops, persuaded her to drink a beer-glassful of it at once, which she accordingly did. Violent vomitings, anxiety, and convulsions followed. Warm milk and water were first given her, and afterwards a spoonful of the following medicine was directed to be given every quarter of an hour at first, and afterwards every half hour:

℞ Extr. cort. Peruv. ʒij.
Camphor. gr. xxij.
Gum. arabic. ʒijß.
Mosch. gr. x. Solve in Aq. menth. ʒiv.
Adde Laud. liquid. Sydenham.
Liq. anod. min. Hoff. āā ℈j.
Syr. cort. aurant. ʒij. Misce.

In a few hours she grew better, and finally recovered, not only of the effects of the vinegar of squills, but also of the dropsy in her chest. She lived afterwards twelve years in a state of perfect health, and died at length of an epidemic dysentery.

Dr. Van B. attributes much of the efficacy of the prescription we have copied, to the camphor it contains, and asserts, that in many instances this drug corrects the squill, so as in great measure to prevent its nauseating effects upon the stomach, and the irritation it is apt to occasion on the coats of the bladder.

9. Ob-

9. *Observations on the Plica Polonica.* By Professor Brera, at the University of Pavia.

As the paper before us contains a very full and interesting account of this curious disease, we have given an entire translation of it for the perusal of our readers.

" During my stay at Cracow, the capital of Poland, in the month of June 1795, I had frequent opportunities, in my visits to the civil and military hospitals, of becoming acquainted with this disease, and of lamenting the deplorable condition of those who are attacked by it. By the Plica Polonica is to be understood, a disease in which the hairs of the head and pubis enlarge, and become knotted together in hard masses, extremely painful to the touch. Most commonly these appearances are attended with a fever of the nervous kind, in which the functions of the brain are disordered. This disease is endemial throughout all Poland, but particularly in Lithuania, where no persons whatever, be their condition, rank, age, or sex what it may, escape without sooner or later paying this tribute to the climate and situation of the country. The numerous class of quadrupeds which inhabit Poland are equally subject to it; and it even attacks them in the deepest recesses of the forest.

" The violence of this disease varies according to the constitution of the individual animal who is attacked by it. The horse suffers more from it than any other, and most of all feels the severity of its influence, knotting at once his long and flowing mane, which before waved beautifully over his neck. In Lower Hungary, the Bannat, Croatia, and Sclavonia, a similar disease prevails; to which foreigners, who reside there long, are also liable, and suffer as much from it as the natives.

" The history of this terrible disease is not yet sufficiently detailed and described by writers; and the great difficulty of investigating its first appearances, and of discovering the causes from which it really originates, has

not only retarded the necessary inquiries on these points, but has also obstructed the most certain path to the discovery of a suitable remedy.

" An indisposition, which is accompanied with a degree of disgust to every kind of nourishment, restless nights, disturbed by melancholy and frightful dreams, with dejection of mind, are generally the forerunners of this cruel disease. After an interval of some weeks, it shews itself by gouty pains, sometimes in the knees, sometimes in the arms, and rapidly spreading over the whole body. At length a smart fever, often of doubtful character, but generally of the nervous kind, shews itself, and, as it increases the violence of all the symptoms, renders the condition of the patient very distressing. Hitherto the plica is considered by the physicians as only disguised, and their method of treatment is rather directed to alleviate the present symptoms, than to eradicate the first cause of the disease. With this view, nothing is neglected that can be employed with the greatest certainty of overcoming the malignity of the fever, which is accompanied by most violent pains in the joints.

" At length, by the use of antiphlogistic remedies, the pains abate, and give an interval of some repose to the patient; and as the fever appears to take an intermittent type, he is encouraged and flattered by the few hours of relief which he enjoys during the intermission. He is rejoiced to feel his appetite returning, and would be sure he was likely soon to be well, if some shiverings, succeeding to transient heats of various degrees of violence, and acute pains darting here and there, together with an inactivity in the animal functions, did not force him, though reluctantly, to think otherwise.

" In this uncertain state, looking day after day for his desired restoration, the patient often passes whole months together, during which, instead of regaining his strength,

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he insensibly falls into a condition truly deplorable. The pains in the joints become more acute, the arms are from time to time violently drawn back, and at others as violently contracted; the hairs gradually become stieky, their diameter visibly increases, and a violent pricking pain is felt all over the anterior part of the frontal bone. At length the functions of the sensorium are disturbed, and the different ideas, now unconnected, are incorrect representations of their objects. Giddiness frequently comes on, and is sometimes attended with dimness. The fever, at this time, does not bear a proportion to the rest of the symptoms: it puts on the appearance of the slow nervous fever, as described by Huxham. With regard to the pulse, it is always regular, except in a few instances, in which I observed it to have slight intermissions, depending perhaps on partial spasmodic contractions. The patient is likewise tormented with an insatiable thirst; and the heat of the tongue and lips, as well as of the skin in general, is astonishing. The urine is mostly turbid, and coffee-coloured, depositing a sediment; and the belly is always hard and costive.

"After the appearance of these symptoms, the experienced physician, who is acquainted with the nature of the disease and the method of treating it, will know with sufficient certainty how to choose the proper indications which are to guide him in the administration of his remedies at the time when danger threatens the head. In this critical situation, the best plan that can be adopted is to promote the maturity, as it is called, of the growing plica; for when this is once obtained, there is no doubt that a perfect cure will be accomplished. The method of securing this with the greatest certainty is, to excite perspiration by the use of warm baths, prepared with aromatic herbs, into which the patient must be put at least once every day. He is always to be consulted respecting the herbs used in the bath, as some persons of extremely irritable nerves shew a particular anti-

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pathy to certain odours. At the same time when the baths are employed, frequent frictions with flannel, more or less coarse, are not to be neglected; nor yet the internal use of resolving medicines, such as extract of dog-grass, soap, and hemlock; and if no signs of a scorbutic habit appear, calomel is also prescribed.

" Observation has proved, that by the regular and continued use of these remedies, sweats generally come on in such a plentiful manner, as to continue frequently for two or three days. The nature of these sweats is very remarkable; for they are not only extraordinarily clammy, but of a most offensive smell. Proceeding in this way to establish the diaphoresis, the plica forms itself presently in the hair, and the symptoms gradually subsiding, the patient finds himself so well as to feel, contrary to all expectation, that he has at length recovered, without any other inconvenience than that of sustaining a heavy mass of knotted hairs. Notwithstanding all the attention the physicians have paid to observe the phenomena attending the formation of the plica, they have never been able to detect the exact moment in which it takes place; and it appears, that Nature has reserved to herself the true secret of this morbid preparation.

" Although the plica may be now formed, and the hairs, being entangled in different ways, are seen in irregular and hard masses, they are not yet at that degree of maturity, in which they may with safety be cut off. This operation is the most difficult and delicate to decide on, on account of its consequences. Most commonly the patient must bear his load for three or four years before it can be performed with propriety. The principal precautions to be regarded are the following:

" We are first of all to try whether it be easy to introduce the fingers between the surface of the head and the plica, and whether this is in any degree detached all round. This favourable appearance shews itself at the moment when

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new and very fine hairs begin to appear on the skin of the head, and elevate the heavy mass of the plica. No time is then to be lost: a part is to be loosened every day with the fingers, now on one side, and then on the other; and thus the mass is to be detached by degrees, and afterwards cut off at several different times. If, while it is being cut off, fresh pains, vertigo, or contractions in the arms are felt, the operation is immediately to be suspended, and the use of the baths resumed, which wonderfully promote the increase and growth of the hair, and consequently the detachment of the whole plica. The operation being favourably ended, the disease generally goes off; but if the imprudence or ignorance of the physician prompt him to remove the hair at an improper time, the infallible consequence is either blindness and incurable cramps, as happen in some instances, or convulsions, and even death, in others. The mere imprudence of combing a lady, who had been just cured of the disease, occasioned her death.

" Lastly, I must not omit to mention, that enlargement of the hairs is often so considerable, that when they are cut off the blood runs down in abundance, and the roots of the divided hairs shew the bleeding diameters of their vessels. Might not this singular fact, if more thoroughly examined, somewhat add to our knowledge of the origin, the nourishment, and growth of the hair?"

10. *Reflections on the Choice of Parts for the Application of Blisters, and other Remedies designed to produce a Discharge.* By P. E. Kok, M. D. & P. &c.

This paper is tedious, and not worthy of a particular account. We find in it, however, the case of a young man, who laboured under a rheumatism in the upper part of the right thigh for four months, without receiving any relief. Among various other remedies, blisters had been applied over the part, without effect. He was at length cured in five days, by a blister over the head of the fibula, and another

another afterward to the instep. Dr. Kok fixed on these places, because the second branch of the sciatic nerve runs there most superficially.

11. *Observations on the good Effects of Electricity in Palsies, and in an Epilepsy which succeeded a Suppression of the Menses.* By Professor HERMBSTAEDT, of Berlin.

These cases are worthy of notice, but many similar to them have occurred.

12. *Case of an Abscess near the Neck of the Bladder.* By M. DUMONT.

The subject of this case was a boy, nine years old. The urine escaped into the cellular membrane, and produced gangrene, which was relieved by scarifications. At length the abscess broke; a considerable quantity of matter was discharged by a circuitous opening under the pubis, and the child perfectly recovered.

13. *Case of complete Luxation of the Tibia, with Laceration of the Tendons and Integuments, reduced and healed.* By M. VAN BAVEGEM, M. D. &c.

This a very singular instance of recovery from an accident of the most dreadful kind. The patient obstinately refused to submit to amputation. The tibia was reduced after much difficulty, by means of an incision through the integuments, to enlarge the lacerated opening through which it protruded. Our readers will see, that notwithstanding the fortunate termination of the case, it does not at all affect the propriety of performing amputation on similar occasions; although it should encourage us to persevere in the use of our best endeavours, under the most discouraging appearances. The account is briefly as follows:

"P. de Strooper, ship-carpenter, aged twenty-two, was near some of his fellow-workmen who were raising a plank of oak thirty-two feet in length, and three inches in thickness. It was lifted up about thirteen feet, when the chain which suspended it broke: he endeavoured to escape, but

fell with his leg on the stump of a tree, and received the edge of the plank a little above the apophysis of the tibia. The bone was driven four fingers' breadth through the skin by the force of the blow. Above, the fibula was shattered into several pieces, one of which came through the integuments. The foot was so turned, that the bottom of it lay across the leg; the heel, the tarsus, and metatarsus, were dreadfully injured; the hæmorrhage was great, and it was three hours before any assistance could be procured."

When Mr. Van B. saw the patient, he considered amputation as affording the only chance of saving his life, but no persuasion could induce the man to submit to it. He therefore attempted to reduce the parts as well as he could. But the hæmorrhage returned with great violence; and all his efforts, assisted by those of M. Henning, a very able surgeon at Termonde, were unavailing. Amputation was again proposed, but in vain. It was then thought right to attempt the reduction again, but first to saw off the projecting portion of the tibia: even this the patient refused full as obstinately as amputation. M. Van B. then proposed to dilate the wound, which was accordingly done; and then, after some further efforts, the parts were replaced. The leg was placed in the bent position, and antiphlogistic remedies, with the occasional use of opium, were prescribed. On the ninth day an abscess appeared at the side of the tibia, which was laid open, as was also a sinus by the side of the fibula on the sixteenth day, from whence a considerable piece of the fibula was extracted. Another sinus was also opened, extending to the tarsus. Bark and vitriolic acid were now given every three hours, and from that time the patient began to mend. In five months the original wound was healed; and in one month afterward, a carious piece of the tibia exfoliated through an aperture that remained at its side,—and thus in six months, contrary to every expectation, the patient was perfectly cured, recovered

the use of his limb, has continued well ever since, and follows his former employment.

14. *On the Reduction of a dislocated Foot.* By the same.

In this case the foot was dislocated, and the os naviculare displaced, but without any fracture. The accident befel the patient on the way to his wedding. It was reduced after great difficulty, by the shock given from the hook to which the cords were attached in making the extension, suddenly slipping out of the wall.

15. *On an Ischury, arising from the Itch (Ischurie Galeús.)* By M. VERBERCKMOES of Termonde, Corresponding Member, &c.

A very obstinate and long-continued retention of urine, in which it was found necessary to puncture the bladder from the rectum, was at length relieved by an eruption resembling the itch.

16. *On the Preparation of the black Oxyd of Iron, or Martial Æthiops.* By M. J. B. DE ROOVER, Apothecary at Brussels, &c. &c.

We have selected the following experiments, from the rest enumerated in this paper, as they will give a sufficient view of its contents.

" I. I took eight pounds of iron filings, more than half oxydated by long exposure to the air, and poured on them a quantity of water sufficient to make them completely wet. At the end of twenty-four hours, all the liquid was absorbed, and the iron converted into a black matter, without growing hot. I poured fresh water on the mass, and repeated it again a third time. The effect was always the same. After the third operation, more than two thirds of the iron were transformed into æthiops. I ground the mass with water, in order to separate the finer part by decantation. It was in great abundance. I put the precipitate thus decanted into a suitable iron pan, and suffered it to boil a moment with the water which adhered to it, and afterward

dried it with a very gentle heat. There remained a fine powder, of a velvet black, which had all the characters of the finest martial æthiops.

" The matter which remained was suffered, after pouring off all the water, to remain at rest for three days; at the end of which time it was become dry and very black. In order to render its complete conversion into æthiops more easy, I was going to pulverise it, thinking, from the crust on its surface, that it was completely dried; but on raising this crust, I found the mass within was still too moist. I stirred it, and it immediately became so hot that I could not bear to touch it. Fearing lest so great a degree of heat should change it all into red oxyd or crocus, I took out a small portion, and cooled the rest by covering it with water. I afterwards regretted that I did not sacrifice the æthiops to the pleasure of seeing how far this heat would have proceeded . . . . .

" VII. This mass was now set to dry before the fire; but my pupil not taking sufficient care about the management of the fire, the whole was converted into yellow oxyd.

" VIII. I took this oxyd, and added to it an equal weight of metallic iron, and a sufficient quantity of water: at the end of two hours it was converted, with a considerable extrication of heat, into black oxyd.

" IX. I mixed rusty iron with metallic iron, adding the latter to the former by small portions, and waiting every time till the æthiops was formed. I found that this method very much shortened the operation.

" XIII. Wishing to see what effect strong calcination would produce upon the black oxyd of iron, I took a small iron pan, and after making it red hot, I threw some of this oxyd into it, by a spoonful at a time. This exhibited one of the most beautiful spectacles imaginable. Scarce had the æthiops touched the red-hot pan, before a number of luminous sparks arose from the bottom, and kept themselves,

selves, as by an electric power, elevated several lines, and continuing to dance about for some minutes in this suspended state. The carbonic gas, which is formed by the oxygenation of the carbon of the iron, is without doubt the agent in this phenomenon. When all the æthiops was thrown in, I kept the vessel a quarter of an hour in a red heat, constantly stirring the calcined mass with an iron spatula. Some ignited sparks were from time to time detached. When this appearance ceased, I removed the pan from the fire. The substance was of a blackish grey. I poured it out on a china plate, where, as it cooled, it became of a fine blood-red colour, with a most beautiful velvet-like appearance.

"This method of preparing the crocus martis, or red oxyd of iron, adds to the advantages of the manner in which I have prepared the æthiops. Every one knows how much time and fuel were expended by preparing it in the old way."

17. *A Method of purifying the Carbonate of Ammonia or chalky ammoniacal Salt, and Ammoniac or caustic volatile Alkali.* By the same.

This paper merely states the necessity of distinguishing between the two salts, and that the former is to be purified with chalk, and the latter with lime.

18. *Account of a peculiar Metastasis which terminated the long Illness of M. Schruers of Brussels.* By J. F. Vanasbroeck, M. D. &c. &c.

After a catarrhal fever, a lumbar abscess formed. The tumour proceeded regularly for a short time, but, on its appearing to diminish, Dr. V. recommended it to be opened immediately, which was done, and the patient afterward perfectly recovered. The history of this case, and the observations upon it, are written in a pompous style, and with technical terms enough to supply the whole vocabulary of Corneille or Moliere.

19. *On*

19. *On the good and bad Effects of Squill.* By the same.

A case of hydro-thorax, the fatal termination of which was protracted for five years, by the continued use of squill. The patient at length, finding his complaint rapidly increase, took too large a dose of it, which brought on inflammation of the stomach, and death. Q. R.

Art. IX. Beddoes's *Contributions to Medical Knowledge.*

(Concluded from page 473.)

Observations on Carbuncle, by Mr. Yonge, Surgeon at Shifnal, Shropshire.

THIS paper contains a case of carbuncle, which ran its usual course of acutely painful inflammation, suppuration, gangrene, and slow recovery, in which the application of cold water afforded much relief in easing the pain, and apparently produced considerable benefit in checking the violence of the disease.

Dr. Beddoes has added to this case several remarks of his own on the utility of cold in various diseases, and relates in a concise manner a case of pneumonia, in which it did much good after the common evacuations had taken place.

A paper on *catarrh* follows; in which is introduced the history of a catarrhal affection occasioned by too sudden a change from an habitual exposure to cold, to a warm temperature: this paper is also followed by several remarks of the editor on the subject of temperature, in which he has made copious extracts from Dr. Edward Barnard, proving the great advantage of cold in fevers.

Miscellaneous Reports and Observations concerning the Respiration of Gases and Vapour.

The first case is that of a young lady who, before marriage, had been exceedingly chlorotic. After marriage, she had miscarried

miscarried several times, and still continued to have a chlorotic appearance. Some years ago she had an herpetic eruption on the face, in the vicinity of which effusions of blood took place into the cellular membrane: these generally emptied themselves by external bleeding. Mr. Creaser of Bath, who relates the case, says he has known thirty ounces of blood lost by this way in a week. Steel and emmenagogues, mercury, astringent and stimulating applications, were tried in vain. Mr. C. then administered the oxygen gas in the usual way; soon after which all the symptoms dependent on the chlorotic state were much amended. After the patient had taken three quarts a day for a month, the livid colour and vascularity of the parts disappeared, and the hæmorrhage was so much diminished as to render it necessary to insert an issue. By these means the patient recovered entirely.

The second case is one of *pulmonary abscess*, communicated by Dr. Crowther of Wakefield.

This case is very interesting in itself, but is far from being satisfactory as to the conclusions which its author and the editor are desirous of establishing. The disease certainly appears from the history of the symptoms to have been an abscess of the lungs; but when the number and efficacy of the remedies which the patient employed are taken into account, it will remain a doubt in the breast of every unprejudiced practitioner, how far the cure ought to be attributed to the inhalation of a pint of hydro-carbonic gas twice a day.

The Reviewer of this article has known several cases of pulmonary abscess cured, where there was not any great hereditary disposition to phthisis, but where the complaint had been brought on accidentally. The present case cannot be considered as a pure experiment, inasmuch as the patient employed opiates, pectorals, gentle astringents and opiates

combined,

combined, emetics, and tonics, independently of his having a pea-issue inserted in his side.

The third case is entitled one of *phthisis pulmonalis* or *atrophia lactantium.*

In this case there was not any purulent expectoration. The matter ejected by coughing is described by Dr. C. as frothy mucus, mixed with blood. The patient was cured by opiates, blisters, tonics, a milk diet, refraining from giving suck, and by inhaling ether, in which cicuta had been infused.

To these cases the editor has added extracts in favour of the airs, from Dr. Girtanner, Dr. Hufeland, a young graduate, Dr. Muerty, and Dr. Kortum, of Aix-la-Chapelle, or Aachen, as it is called in Germany and in the Contributions.

Summary of the late Dr. Geach's Practice in low Fever.

The practice here described as one which was very successful, is analogous to that which was followed by Dr. Rush of Philadelphia, in the yellow fever. Accident led him to observe that the action of mercury was unfavourable to febrile contagion; in consequence of which he employed this remedy in malignant fevers, but not with such freedom at first as during the last seven years of his practice.

Our readers, we imagine, will be glad to read an account of this mode of treatment in the language of Mr. Hammick of the Royal Hospital at Plymouth, by whom the communication is made.

"Whenever the doctor was called to a person labouring under symptoms of typhus fever (if within two or three days of its first attack) he used constantly to prescribe fourteen or sixteen grains of ipecacuanha, assisting its operation with camomile tea; three hours after the cessation of the vomiting (if the patient was delicate,) a bolus of five grains of calomel, with a scruple of rhubarb, was given, but if the patient was of a strong habit, a scruple of jalap; with

eight

eight or ten grains of calomel, were administered. If evacuations were not thus produced within eight or ten hours, castor oil, or some other laxative, was given occasionally till the desired effect had taken place. The windows of the room were opened in such a manner, that the room was kept perfectly cold, without subjecting the patient to a current of air; the bed-curtains nearly all withdrawn, so that free circulation was admitted, even in winter; taking care to have (where it could be procured) frequent changes of linen. After the stools, the following boluses were immediately ordered:—calomel eight grains, pulv. antimonial. four grains, cons. cynosb. q. s. ut f. bol. to be taken every six hours when the symptoms were slight; but when the case was very urgent, or he had not been called in till the fever had made some progress, then the above quantity was given *every four*, *three*, or even *every two hours*, permitting weak lemonade, tamarind or cream of tartar water, to be taken for the common drink. If the fever still went on, and the patient's strength became exhausted, a little port wine diluted with water was allowed; usual quantity half a pint, seldom or never exceeding one pint in twenty-four hours. To any person unaccustomed to give these boluses, diarrhœa, ptyalism, or vomiting, would naturally suggest themselves as the inevitable consequences in almost every case of their exhibition; but the fact, in a multiplicity of instances, directly proves the reverse; for in general we are obliged to order a little castor oil, rhubarb, with kali ppt. or an electuary, made of equal parts of cream of tartar and conserv. cynosb. Ptyalism has seldom, as I have before said, followed their use; notwithstanding they have been continued to some patients every *three* hours, for eighteen or twenty days: but when they did affect the salivary glands, the cure was always certain and expeditious after that event, appearing to check immediately the progress of the disorder. When

diarrhœa

diarrhœa supervened, the doctor was cautious how he checked that discharge, never attempting it unless the patient was very feeble or low; for in several instances where numerous stools have been procured, the patients have found themselves relieved of a delirium which had been on them for three or four days before; but when the diarrhœa continued profuse, exhausting the patient's strength, then means were employed for its removal; commonly a scruple of conf. opiat. or an ounce of poppy syrup sufficed: if they did not, half a grain or a grain of opium was combined with the calomel and antimony, but seldom were we necessitated to seek the assistance of opium, and in no other way did the doctor ever administer opium in this disease. Vomiting, when excited, was commonly allayed by the saline mixture in the state of effervescence; when this symptom much harassed the patient, the antimonial powder was reduced from four to two grains: this was the system pursued throughout the whole of the stages of this fever, never administering any other medicine, unless any extraordinary occurrence took place; therefore the whole dependance for a cure may be clearly perceived to be entrusted to the calomel and antimony."

In cases where delirium was great, blisters were applied. As soon as symptoms of unequivocal recovery ensued, the boluses were discontinued, and the patient supported by nutriment and a decoction of bark.

We are happy to observe that Dr. Geach's MS. having fallen into the hands of a professional gentleman, Mr. Knighton of Plymouth Dock, he intends publishing it, together with some observations of his own.

Extracts of Letters from Mr. Cooke, Apothecary at Glocester.

The subject of these extracts concerns the fallibility of the cow-pox, as a preventative of small-pox.

A Mrs. Carter, of Langley in Glocestershire, requested Mr. Cooke (December 5, 1798) to inoculate her son for

the small-pox, and told him that as she had had the cow-pox violently, and frequently, since that time, been exposed to the contagion of the small-pox without having had it, she thought it unnecessary to be inoculated herself. Mr. C. however remonstrated, and she submitted to the operation; the consequence of which was, that she had the small-pox in abundance. It is now known that this relation is not to be depended on: the apothecary who attended the lady having given a different account.

To this letter are added several communications from Mr. Clayton of Glocester. These principally relate to the diseases of cattle. Among other matters, he informs us that an eminent practitioner of Glocestershire told him he was confident that every person who had had the cow-pox might have the small-pox if inoculated, but that the disease was milder.

Answers to Dr. Adam's Queries concerning the Sivens, (i. e. *Yaws.*)

This is a short but very interesting paper by a Dr. Paterson of Air, who is decidedly of opinion that the sivens is a disease specifically distinct from lues; and it must be confessed, that if the facts which he mentions be strictly true, (which we have no reason to doubt,) his opinion appears very well grounded.

It is impossible for us to condense, in a satisfactory manner, all the contents of this letter; but for the sake of our readers, we will extract that part which will, in our opinion, be found highly curious and instructive.

"*Extract of a Letter from Dr. Paterson.*

"'It is about fifteen years since I read Dr. Gilchrist's 'account of the yaws, in the Edinburgh Physical and 'Literary Essays, and I have not the book at hand; but 'if I do not forget, he considers the yaws, not as a par-'ticular species or modification of lues venerea, but as 'exactly and identically that disease. This I believe to be

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'an error, and I beg leave to state my reasons for thinking 'so.

"'1st. Lues venerea was common in this county long 'before the yaws appeared. It is perfectly ascertained, 'that the latter disease was introduced into Airshire about 'the year 1745, by people who came from Dumfries to 'buy cattle. It was brought to Dumfries by a party of 'soldiers who had been stationed in the north Highlands; 'and the tradition there is, that it was imported or pro-'duced by the soldiers of Oliver Cromwell, labouring 'under lues venerea. Ever since its first appearance, it 'has prevailed in a greater or less degree, in the different 'places, at different times; sometimes abating so much, 'both in virulence and in frequency of occurrence, as to 'give hopes that it would entirely wear out; then breaking 'out again with greater violence, generally in the harvest 'season, and spreading over several parishes. I have often 'attempted to trace the infection to some person affected 'with lues venerea, but never with success. I am con-'vinced, therefore, that it always arises from its own spe-'cific poison; whatever way that may have been originally 'generated. Some medical people in this country imagine 'it a combination of the itch and lues venerea; while 'others believe it produced from the angina maligna and 'lues. With regard to its first production I know nothing; 'but I believe it is, like the small-pox and other similar 'diseases, never produced now *de novo*. The origin of 'these poisons is a very obscure subject, not likely ever 'to be much elucidated. *Latet causa, vis et notissima.*

"'2d. The yaws is undoubtedly much more infectious 'than the common lues; for it seldom gets into a family 'without infecting every person in it, and frequently spreads 'rapidly over a village. If the common lues were to spread 'in a similar manner, its progress in all large towns would 'be truly dreadful.

" ' 3d. The yaws is certainly a more cutaneous affec-
' tion than the common lues; for it almost never affects
' the large hard bones, and very seldom indeed occasions
' buboes. I admit that this may be partly explained from
' the different manner in which the virus is received, but
' I think not altogether. I look upon it as an ascertained
' fact, that, of all the preparations of mercury, the corro-
' sive sublimate is the best adapted for the cure of sibbens;
' that is, it cures it more speedily, and with equal certainty
' with any other mercurial preparation. This probably
' arises from the sibbens affecting the surface of the body
' more than the common lues.

" ' 4th. The yaws is more easily cured than the ordi-
' nary form of lues; for a much less quantity of mercury
' removes blotches and extensive ulcers than is required
' in lues contracted in the ordinary manner. I have had
' adundant proof of this; but I acknowledge that the dis-
' ease is very apt to return, from the patient's leaving off
' the remedy too soon. It is always necessary to continue
' it for some weeks after the symptoms have disappeared.
' Sauvages mentions a species of syphilis, which he calls
' syphilis indica, his third species: he says it is very in-
' fectious, but easier to cure than the other species; it
' appears similar to the yaws of this country.

" ' These, Sir, are the only observations which occur
' to me at present, as worth communicating to you on this
' disease. I have written them chiefly with a view to shew
' my inclination to aid you in your useful investigations.
' *J. P.*' "

Case by Mr. G. Vise, Stilton, Huntingdonshire.

This was a case of ascites, which followed a quartan fever of very long standing. The digitalis was used without effect. Ten times had the patient, a woman forty-eight years old, sustained the operation of paracentesis. A day or two before the operation was to be performed for the eleventh time

she accidentally fell forwards, whereupon vomiting ensued, which, notwithstanding various remedies, did not cease for six days. In that time Mr. Vise thinks she vomited two gallons of fluid, nearly of the colour of that which had been drawn off by the operation. She then took ʒj of the pil. colocynth. & aloe, divided into xii pills, which did not operate until she had taken the whole quantity. After their operation she began to make water, and to recover her strength rapidly, and ever since has remained free from dropsical symptoms.

On the Use of the Nitric Acid in restraining Sickness: by the Editor.

Dr. Beddoes commences this paper by informing his readers that he has "scarcely found any medicine so certain in its effects as nitrous acid in relieving sickness," and this assertion he supports by six cases, in all of which the acid relieved the symptoms.

Case by Dr. Luke, Physician at Falmouth.

This is a case of dropsy which arose, in a gentleman of the naval line, from hard drinking. The fox-glove, squills, calomel, and alkalies, æther, mercurial frictions, opiates, and purges, were employed without success.

"Under these circumstances," says Dr. L. "I was induced, from the character given of nitrous acid, to try its effect. A dram and half was diluted with a quart of water, to which were added two table spoonfuls of rum, and as much sugar as he pleased. It proved rather grateful to him than otherwise, and was all taken with ease in the course of the first night. The same quantity was given daily, the next three days, when it was increased to two drams to two quarts. It still agreed with him, and the rum was omitted. No other medicine was given at this time. He drank bottled cyder when thirsty. His diet consisted chiefly of gruel, with milk, to which he was very partial. In a few days he felt himself generally better, and was able to sleep without anodynes. And at the end of a week, I had the pleasure

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to observe, on my entering his room in the morning, seven or eight large rummer-glasses full of wine discharged during the night, the colour still dark but more transparent. This was the first material change since the adoption of the acid, and the first that emitted the least ray of hope. From this period, that is, the first week of taking this medicine, and six weeks from the operation of tapping, I found no occasion to omit or alter the preparation. He took it six weeks longer, daily, evacuating such quantities of urine as gradually reduced the swellings of the abdomen and extremities to their natural sizes. A free spitting, and the same soreness of the mouth as was excited by mercurials, continued during the whole of this time, and the fœtor of the breath was unaltered. A bandage was now necessary to support the flaccid muscles of the belly, and pills of cicuta were given on account of an induration which could be evidently felt in the region of the liver. A liniment also was rubbed on the abdomen, twice a day, composed of camphorated oil and tinct. opii. With the exception of these remedies, none but the acid had been exhibited for six weeks past. His appetite and strength had gradually improved; his stools were now natural and regular, and he sat up several hours in the day. At the end of the next fortnight he quitted his lodgings, and returned to his own house, sixty miles distant, still taking the acid. About a month after his return, I heard from him that he had left off the medicine, and was better than he had been for several years before.—I have this day received a message from him, (six months having elapsed since I saw him,) that he continues free from swelling, and in all respects better than he has been for years past, and requesting that I will publish his case, not concealing either the name or cause of the complaint, if I think proper."

Note from Mr. Scott of Bombay, on the Nitric Acid Bath.

Mr. Scott informs Dr. Beddoes in this note, that he has written

written another letter on the effects of the nitric acid bath, which will be sent to England by the first opportunity. In the mean time, he requests him to publish this note, with a view of inducing practitioners of Europe to make trial of the bath.

This note states that Mr. S. has made many trials with it, in all of which he found that it has been plentifully absorbed by the skin, and performs the same effects on the system as arise from its internal use. He makes the bath so strong as to irritate the skin. In about a week it generally brings on ptyalism and soreness of throat. There are some people, however, on whom it cannot be made to act. It is safe, he says; and has done good in chronic hepatitis, in asthma, and in fever. It is also antisyphilitic.

An Account of several Veins of Sulphate of Strontian, found in the Neighbourhood of Bristol; with an Analysis of the different Varieties. By William Clayfield.

This lately-discovered mineral substance is by no means accurately described, as to its internal characters. It is said to be found in veins from three to twelve inches in thickness, which veins intersect nearly horizontal strata of limestone and argillaceous sand-stone. There are three varieties of it; one fibrous, the other in mass, and the third crystallized: of each of these we have seen several specimens. Mr. Clayfield says, that its crystallization is either that of bevelled tables or rhomboidal cubes of nearly an inch in diameter. The specimens we have seen, clearly exhibit the primitive crystal; which is a rhomboidal plate or table, the angles of which, as the Abbé Hauy has accurately remarked, differ from those of the sulphate of barytes only one degree and some minutes.

Mr. C. says its colour is a delicate blue tinge, which is the case with most of the specimens; but we have seen it colourless, and from this state passing through every shade of

blue

blue to that of the true *celestine* of America. No notice is here taken of its lustre, hardness, fracture, or transparency.

To this paper is added a note by the editor, which is very interesting. It not only proves what is already well known, that the carbonate of barytes is a deadly poison to animals, but also throws much light on its mode of action, and the antidote of this poison. In every case in which it was given, it produced great inflammation of the stomach; and in many cases the inner coat was so much loosened from the others as to be easily separable. As Dr. Beddoes imagined that the insolubility of the sulphate of barytes was the cause of its not proving noxious, he desired that some harmless absorbent should be given with the carbonate, imagining that it would prove an antidote. But the result shewed that this conjecture was not well founded; for the dose proved equally deleterious, as if no absorbent had been joined to it.

The calcareous liver of sulphur, united to the carbonate of barytes, proved instantaneously fatal.

The result of the last experiment which is narrated, gives us hope that oil will be found the best antidote.

On the whitening of Bones.

The method here recommended, is to bleach them with oxygenated muriatic acid gas.—The gentleman who makes the communication is Mr. Richard Smith of Bristol.

Letter on Gonorrhœa.

In this letter there are two cases of gonorrhœa mentioned, wherein the corrosive sublimate was tried in the way recommended by Mr. Addington, of which we have given an account. In both these cases the remedy produced very unpleasant symptoms, and failed in curing the disease; nay, in the second case the gonorrhœa was worse than before the commencement of the trial: this case is certainly the most decisive of the two. In the first month, the

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gonorrhœa is said to have been of fourteen months standing; which circumstance alone would lead us to suspect that it was kept up by strictures in the urethra. It does not appear that the surgeon who writes the letter, and who conceals his name, examined the urethra with a view of ascertaining this point. Whoever he is, we think he acted very injudiciously in repeating the remedy so often as he seems to have done in both cases, when he found it produce so much uneasiness; and we confess we are astonished that any one who engages to make trial of a *new* plan should not strictly follow *every* part of the practice recommended. In the first case, he exhibited eight doses of corrosive sublimate, at very short intervals; and although Mr. A. particularly states that a purge of Glauber's salts ought to be exhibited after each dose of the medicine, yet this anonymous practitioner did not exhibit it once.

The above communication had been sent by the editor to Mr. Addington, who justly blames the surgeon for the deviations from the plan he had followed. Mr. A. adds, that, since his first letter, he has tried the remedy several times, and with the greatest success.

Note by the Editor, on the Use of Mercury in febrile Diseases.

In this short note Dr. B. mentions several old medical writers who have recommended mercurial preparations internally, in different febrile diseases.

Note from Dr. Jenner on the Cow-pox; in which he tells Dr. Beddoes, that nothing, either of fact or argument, in the communications of his correspondents, inclines him to alter the opinion he had formed.

Answers by Mr. Jacobs, Attorney at Law, Bristol, to Queries proposed by the Editor, respecting the Cow-pox.

From these categories, and their answers, it appears that Mr. Jacobs had the cow-pox about fifty years ago; but from the answer to the fourth query, it cannot certainly be determined that he had what is called the genuine or con-

stitutional cow-pox. Near ten years afterwards Mr. Jacobs had the small-pox.

A Letter to Dr. Beddoes, on the Use of the Digitalis in pulmonary Consumption. By Nathan Drake, M. D. &c.

This is a most ingenious, valuable, and well-written letter. It is curious, on account of the manner in which its author accounts for the salutary effects of the remedy in phthisis; and it is interesting, for the facts it communicates.

The present article is already so much extended, that our readers must be satisfied if we merely give a general statement of the facts; and as the first case is highly illustrative of the efficacy of the remedy, as well as of the mode of preparing and exhibiting it, and is not very long, we shall insert it wholly.

"James Marris, aged sixteen, complains of considerable difficulty of breathing upon motion, and of pain in the right side. He has a frequent short cough, attended with a copious expectoration of pus, dense, fœtid, and occasionally mixed with blood. Pulse 120, and the morning and evening exacerbations, especially the latter, strongly marked. Great emaciation and prostration of strength. Tongue clean. Thirst not considerable. Appetite not much impaired. Belly regular. Sleep interrupted, and he cannot lie with ease on his left side. Slight perspiration toward morning. Skin hot and dry. Shivering fits every two or three days. Urine high-coloured.

"He has ever been of a delicate constitution, and for two years or more liable to dyspnœa and pain in his chest on using exercise, accompanied by a spitting of blood, and slight purulent expectoration. An hereditary tendency to phthisis exists in the family; his mother, aunt, and uncle having perished under that complaint. He is evidently likewise of the form and habit which physiologists consider as predisposing to tubercular consumption. Having a few months ago removed from his native county of Lincolnshire to a high

high situation in Suffolk, and shortly afterwards exposed himself to cold whilst fishing, he was attacked with a return of hæmoptysis attended with stitches in his side, and fever. These symptoms were mitigated under the care of a neighbouring surgeon, and he continued for a short time tolerably well; but upon his difficulty of breathing, pain and fever recurring, though in a slight degree, he removed to Monks-Eleigh, beneath the care of a near relation. In about a week after this change of situation, his dyspnœa and cough increased, and he now began copiously to expectorate what appeared, and, upon trial with the vitriolic acid and caustic alkali, proved to be in a great proportion pus. This and the other symptoms still augmenting, my assistance was required, and I saw him on June 22d, 1797, and had six ounces of blood taken from his arm, which on cooling proved considerably sizy. I ordered a blister to be applied to his right side, and prescribed some pills composed of myrrh and antimonial tartar, to be taken with neutral mixture three or four times a day.

"June 26. Pulse still 120, with great heat, difficulty of breathing, and cough. Expectoration, if any thing, increased, and very fœtid. Pain rather mitigated. Great debility, so as to be incapable of walking across the room without assistance. Little or no sleep, and slight perspirations towards morning.

"℞ Foliorum digitalis purpureæ in pulverem crassum trit. unc. i, Spiritus vini rectificati et Aquæ puræ āā unc. ii. Digere leni calore, sæpe agitans, per horas xxiv. et cola.

"℞ Kali pp. scrup. i, Succi limonis unc. ß, Aquæ puræ drachm. vi, Tincturæ digitalis purp. gutt. xv. Fiat haustus, primo mane, et horis duabus ante prandium sumendus.

"Ordered to take asses' milk morning and evening, and allowed a little wine and animal food.

"June 28. Pulse 108; cough, breathing, and pain, rather easier. Debility appears to be increasing. Expecto-

ration extremely copious and heavy. He is confined from weakness to his bed and couch, and his friends apprehend him not capable of surviving many days. No sickness, however, from the digitalis. The tincture ordered to be increased to twenty-five drops in each draught; more animal food allowed.

"July 1st. Pain nearly gone; expectoration rather diminished; cough not so frequent; breathing much freer; debility not increased since the last visit; skin cooler. Ordered thirty drops of the tincture in each draught.—July 3. Pulse 80; breathing continues much easier; expectoration evidently diminished, and the fœtor abating. He is capable of more exertion, and feels himself in every respect better, except that his appetite begins to fail. Ordered to take his draughts as on the 1st.—July 5. Pulse 76; skin of the natural temperature, body open; no increase of urine; expectoration greatly diminished; breathing free, but still unable to walk without assistance; no sickness from the digitalis, but appetite much impaired.

"℞ Cinchonæ in pulverem tritæ unc. i, Quassi ligni et Corticis aurantii āā drachm. ii, Aquæ ferventis unc. xii. Macera per horas tres, et cola.

"℞ Infusi colati unc. iß, Acidi vitriolici diluti guttas x, Tinct. digital. purp. gutt. xxxv. Fiat haustus mane et meridie sumendus.

"July 8. Pulse 68; appetite improved, being able to take much more animal food, and three glasses of wine per day; breathing easy; skin natural; expectoration rapidly diminishing. Ordered to take forty drops of the tincture in each draught twice a day.—July 12. Pulse 50. Cough nearly gone; breathing perfectly easy; sleep sound; expectoration decreased more than two thirds; ordered fifty drops in each draught.—July 17. Pulse 44; expectoration amounting to but three or four table-spoonfuls; no cough; strength daily increasing, and he is able to walk about the house;

house; appetite continues good; much intermission in the pulse; draughts twice a day as on the 12th.—July 22. Pulse 40, and intermits every third stroke; no sickness; expectoration amounts but to one table-spoonful, and, when tried with the vitriolic acid, evinces very little matter. No cough, nor difficulty of breathing; appetite remains good, and his strength continues to increase; ordered to take only forty drops of the tincture in each draught.—July 28. Pulse varying from 44 to 48, and still intermitting; strength so much restored as to be able to walk out for some time during the middle of the day. Other symptoms as on the 22d. Ordered but thirty drops in each draught.—August 4. Pulse 48 and sometimes 50; intermits every sixth or seventh stroke; strength almost restored, and he is rapidly gaining flesh. Ordered but twenty-five drops of the tincture in each draught.—August 15. His pulse has now never risen beyond 50, for better than four weeks; his strength is almost perfectly restored, and he can ride out for eight or ten miles with but little fatigue or uneasiness of any kind. His cough and difficulty of breathing are entirely removed, and his expectoration, which is now a mere trifle, is altogether free from pus. He feels no pain even from a deep inspiration, and his countenance has a healthy appearance. Ordered to omit the digitalis, but continue the infusion of cortex and quassia twice a day.—August 29. Pulse 70, and free from intermission; strength perfectly restored; flesh nearly regained, and in all respects indeed well."

The second case is that of George Grimes, aged nineteen, whose symptoms indicated the disease under which he laboured to be phthisis. He expectorated purulent matter; had an incessant cough, pain in the side, and dyspnœa. His pulse was 120 in a minute. Dr. D. prescribed, on the 10th of August, twenty drops of tincture of digitalis for him, to be taken twice a day. The next day his pulse was 112. He then was ordered twenty-five drops twice a day; and

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on the 12th his pulse was 108; and the pain, cough, and breathing better.—On the 14th, when he took thirty-five drops, his pulse was only 80, and the expectoration not half of the original quantity.—On the 18th he took forty-five drops for a dose, and his pulse was at 50. He now began the use of the bark, along with the digitalis. On the 22d his pulse was at 40, and he experienced some nausea. On the 26th he was unable to retain food; his expectoration was entirely free from pus. The digitalis was omitted, a glyster was ordered, and the bark continued. From that day until October 8th he daily improved in health; but having imprudently exposed himself to cold, he was again attacked with cough and febrile symptoms, for which he was ordered the tincture of digitalis, with the lac amygdalæ.—On the 27th he was considered as quite well.

Letter from Dr. Fowler, on the Cure of Consumption.

Although in this letter the cases mentioned by Dr. Fowler are very far from being full and satisfactory, as to the nature and period of the disease when the patients applied to him; yet it is pleasing to observe, that in most of them the digitalis evidently did good. This letter is highly valuable, from the great number of cases it contains.

Dr. Beddoes has added a very important note to these letters; which, we are sorry to say, throws a damp on our expectations from the antiphthisical property of the digitalis. It was far from being a successful remedy in his hands; but he justly observes, that various causes might contribute to oppose its good effects in the cases which fell under his care. The patients were almost all in an advanced stage of the disease, and were slender, delicate, and puny subjects, who had been exposed to all the bad effects of that mode of life which is so common among the opulent.

After the foregoing sheets had been sent to the press, we discovered that one of the communications to Dr. Beddoes had been inadvertently overlooked: it is a *Letter on the Cow-*

pox

pox, from Mr. Thornton, Surgeon, Stroud, dated Feb. 7, 1799; in which he relates several cases, supposed to "operate against Dr. Jenner's doctrine of security." Mr. T. visited a man-servant, having pustules on his hands and fingers, from milking an infected cow: he had previously experienced pain in his head and axillæ, with frequent cold shiverings, fever, and debility. Another adult subject and four children were inoculated from the matter of a purulent pock, the only one this man had that was not degenerated into a sordid and painful ulcer. On the third day their arms were affected with a kind of erysipelatous efflorescence, above the part where the matter had been inserted. About a fortnight after, the punctures began to be covered with a thick crust, from which some ichor was discharged several days. The inflammation subsided, and the scabs fell off, about the twentieth day. During this process, no commotion was excited in the system, nor the least pain in the axillæ. From the long-continued local excitement, Mr. Thornton hoped that the virus had crept into the habit of his patients, and proved a defence against the variolous contagion; but, on inoculating them immediately for the small-pox, "all the children received the infection, and passed through the different stages of the disease in the usual slight manner." The adult subject, however, who was the father of these children, resisted all attempts made to communicate the small-pox; and Mr. T. conjectures that he might have had it in the early part of his life, which he spent in London.

This gentleman adds the following observation respecting three other children:

"Concerning Mr. Colborne's children, I have received authentic information, 'that three of them were inoculated 'with cow-pox matter, together with a servant-man; two 'of the children suffered severely from violent inflamma-'tion and alarming ulcerations in their arms. They were

'all inoculated afterwards with the small-pox matter; the 'two whose arms had been so dreadfully affected, did not 'take the small-pox; the others received it'."

We have before suggested (p. 599,) that Dr. Jenner was unmoved by these facts, and left the ultimate decision to an impartial world.—"The same equitable tribunal," says he, "perhaps, will not fail to discriminate between the man who sedulously employs the greatest part of his time in making experiments for the complete investigation of a confessedly complex subject, and him who appears peremptorily to decide on the truth or falsehood of a theory, on the supposed authority of a few solitary instances, which after all may have been mistated, or misunderstood."

In an advertisement, subjoined to these Contributions, the editor holds out to us an agreeable prospect of "the first part of a second volume being ready by the end of the year."

U. K.

MEDICAL REPORTS AND CORRESPONDENCE.

Art. 1. *Abstract of a Report on the Phenomena of Galvanism.*

(Concluded from page 505.)

III. THE committee appear to have used no less care and discernment in experiments upon those circumstances, which, though different from the structure of the galvanic circle and its two constituent arcs, have, however, *a decisive influence upon the exhibition of the phenomena of galvanism.* Some curious observations were made on the differences in the state of the parts exposed to the galvanic action. It was ascertained, that frogs, fresh from the ditches, did by no means exhibit the same phenomena as those which had been during some days preserved in the house; nor did the limbs of animals, when recently stripped of the skin, present the same appearances as after they had been subjected

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to a variety of galvanic experiments; nor were the same effects to be produced upon the parts of animal bodies, which, after a certain number of trials, had been left for a while at rest and then taken up again, as upon those which had been subjected to one continued train of experiments. The committee next examined the variations in the success of the experiments upon a strong lively frog, which may be produced by varying the mode in which the *communicator* is carried from the one *supporter* to the other: when the communicator is brought into contact with the supporter, or is withdrawn from actual contact with it; when the *communicator* is brought slowly, or when it is brought rapidly into contact with the *supporter*; the effects are nearly the same: and a smart convulsion is, in all these cases, produced at the moment of the commencement of the mutual contact, or of its cessation. But when the frog is fatigued the effects are different. These successive experiments likewise affect the results of one another, by means even of their succession solely. And they are also naturally subject to be influenced by the nature of the media, amidst which they are performed; such as common air, water, an electrical atmosphere. The following are the inferences which have been deduced from this class of these experiments:

1. In many cases the galvanic energy is excited by exercise, is exhausted by continued motion, is renovated by rest.

2. The multiplicity of the causes by which the experiments of galvanism are liable to be influenced to success or failure is so great, that we cannot, as yet, be too cautious in either rejecting or believing those accounts which we hear of the success of any such experiments, unless when we are able accurately to appreciate all the influencing circumstances.

3. This is remarkably confirmed by a fact, which the committee have related in their paper, and which respects the continuation of the galvanic spasm.

The communicator being supported by the hand, and

resting, seemingly without change of position, still upon the same point of contact, there is known to take place a real change in the galvanic contact, although the communicator have remained thus apparently motionless.

From this it may be farther inferred, that the smallest possible change in the relative situations of the parts of the galvanic circle and the excitatory arc is capable of producing an effect upon the susceptible animal, and of occasioning mistakes in regard to the success of the experiment, if the utmost care be not taken to notice and estimate every variation that can happen.

4. The truth of the foregoing proposition is farther confirmed, by the experiments upon the manner in which the galvanic movements are affected by the advancing, or the withdrawing, of the communicator. For these experiments fully evince the necessity for the most vigilant observation of every moment in the process of an experiment, not only collectively, but in their succession, and at the different periods of the operation.

5. It should seem that there are in the formation of the excitatory arc, independently of its modes of acting in the galvanic operations, certain enervating, and certain exciting dispositions; of which, some not only augment or diminish the energy in the present instance, but, besides, dispose the animal to a greater or a smaller susceptibility under subsequent experiments.

6. In order to accuracy of experiment, and to the correct ascertaining of the effects of an experiment, it is of great importance to know the precise state of the animal, the manner in which it has been preserved and sustained to the present moment, the state of the atmosphere, particularly as it is indicated by the hygrometer, by the barometer, the thermometer, and the electrometer.

7. It were to be wished, that in making a statement of experiments of different sorts, these should be arranged in

the order of their efficacy, and that there might thus be formed a *galvanic scale*, which should help us to determine the precise degree of the galvanic susceptibility of any animal in this or that particular state or position; should direct us in subjecting every such animal only to experiments suitable to its particular susceptibility; should enable us to estimate, from the *efficacy* or *inefficacy* of our experiments, the galvanic value of the circumstances in which we every day find ourselves; and should enable us to judge when the success or miscarriage of an experiment can afford room for certain conclusions absolutely negative or affirmative.

IV. In their experiments upon the *means of* VARYING, DIMINISHING, *and* RENEWING *the* SUSCEPTIBILITY *of animal bodies* to the influence of galvanism, the committee examined, 1. the influence of electricity upon that susceptibility; 2. the effects of the muscular organs, and of certain liquors, such as alcohol, the oxygenated muriatic acid, the solutions of potash and opium, upon the galvanic properties; 3. and at the medical school of Paris they made a number of experiments, in order to ascertain what new modifications the galvanic energy undergoes in various cases of suffocation or asphyxia. These last-mentioned experiments were made upon hot-blooded animals, of which some were reduced into the state of asphyxia by submersion, some by strangulation, some by the action of gases, while others were killed *in vacuo* by the discharge of the electric spark. In that suffocation which was produced by sulphurated hydrogenous gas, by carbonic vapours, and by submersion, in which the animal was suspended by the hinder feet, the galvanic susceptibility was entirely destroyed. The galvanic susceptibility was only suspended by suffocation, produced by the pure carbonic acid confined under mercury. It was diminished, but not destroyed, in those cases of suffocation, which were occasioned by sulphurated hydrogenous gas that had lost a portion of its sulphur, by gas ammoniac, gas

azote, or such gases as had been exhausted of their pure air by respiration; and the same thing was found to take place in animals which had perished by total submersion. But the galvanic susceptibility survived unaltered in suffocations brought on by submersion in mercury, by pure hydrogenous gas, by carbonated hydrogenous gas, by oxygenated muriatic acid, by sulphureous acid; as also when the suffocation was occasioned by strangulation, by the abstraction of the air in the air-pump, or by the discharges from an electrical battery. The results of the experiments at the medical school suggested the following reflections:

1. Though it be true that all cases of suffocation resemble one another in the privation of respirable air, and in the suspensions of the functions of respiration, and of the circulation of the blood; yet, in their other circumstances, they are subject to great differences, arising from diversity of nature in the substances by which they are occasioned.

2. Of these causes, some appear to act with a more thorough efficacy, penetrating at once all parts of the nervous and muscular systems. Others again seem to act but superficially, producing only pulmonary asphyxia, with its immediate effects.

3. One of the most remarkable changes not confined to the organs of respiration consists in the alterations produced on the galvanic susceptibility. In that respect the various cases of asphyxia differ greatly one from another.

4. The state of the irritability of the muscles, when examined by means of bodies, the mechanical action of which causes the muscles to contract by irritating them, is far from always corresponding to the state of their galvanic susceptibility.

5. Lastly, the causes of suffocation, or asphyxia, do not act upon all parts of the muscular system in the same manner. But the heart is very often found in a state extremely different from that of the other muscles.

V. *The*

V. *The comparison between the phenomena of* GALVANISM *and those of* ELECTRICITY is perhaps one of the most interesting objects of attention in the whole body of animal physiology. It is well known that Galvani was accidentally led to his discovery by observing the motions of some frogs, at a certain distance from an electrical machine discharging sparks. The committee from the Institute therefore made some attempts to ascertain the relations between electricity and galvanism. Having first paid due attention to the susceptibility of animals toward the influence of electricity, they then sought to discover to what precise degree animals, divested of the natural covering of the epidermis, were liable to be affected by the variations of the electrical fluid in the atmosphere around them. Next, comparing the susceptibility of electricity with the susceptibility of galvanism, they perceived that quantities of the electrical fluid, such as are still capable of being very accurately measured by the electrometer, are, however, often too weak to act upon a frog that retains the most perfect sensibility to all the energy of galvanism. The members of the committee purpose to prosecute their experiments farther upon this part of the subject.

VI. The following are the general results of the experiments made by M. Humboldt in the presence of the committee:

1. There is no truth in the assertion of certain physiologists, that the experiments of galvanism fail when tried upon the heart, and those other muscles of which the contractions depend not upon volition. For these organs have been found to be actually subject to the influence of galvanism.

2. The effects of galvanism are liable to be interrupted by the constriction of a nerve, whenever both the nerve and the constricting ligature are enveloped in the flesh of the animal body.

3. The powers of the exciting arc may be renovated or destroyed,

destroyed, even though its supporters remain the same, and although the extremities of the arc be unchanged. Only the relations of the intermediate matters require to be altered.

4. There are atmospheres of galvanism.

5. There are substances which, though in an eminent manner conductors of electricity, yet interrupt the motions of galvanism.

M. Humboldt had performed also other experiments, which, when he attempted to repeat them before the committee, could not be brought to succeed, on account, as was supposed, of the season of the year. Z.

Art. 2. *A Statement of the Progress in the Vaccine Inoculation; and Experiments to determine some important Facts belonging to the Vaccine Disease.* By GEORGE PEARSON, M. D. F. R. S. Physician to St. George's Hospital, &c.

For the London Medical Review and Magazine.

THE collection of testimonies which I published in November last in my *Inquiry concerning the History of the Cow-pox*; and the circular letter which I issued in March, stating the progress of the *Vaccine Inoculation*, and containing thread impregnated with *matter*, have procured me much information. In particular, through the recommendation of the *Surgeon-general, Thomas Keate, Esq.* the new practice has been introduced into the army, of which, a valuable report has been already communicated. I have been also so fortunate as to obtain permission to practise the *new inoculation* in certain situations where great numbers would have been inoculated for the small-pox. The cases from these sources, and a pretty large stock from private practice, form a valuable body of evidence, by means of which, the professional public will be enabled to estimate (I do not say

precisely)

precisely) the value of the *new practice*, and also answer many of the queries, and supply some of the deficient parts of the history of the vaccine disease, which are stated in the *Inquiry* above mentioned. But such are my occupations at present, and in all likelihood such they will be for a considerable time, that I shall not speedily be able to arrange for the use of the public the valuable materials transmitted to me. It will however, perhaps, be not without utility at this time, first, to state a few general results from the vaccine inoculation; and secondly, to relate some *trials*, from which, I apprehend, conclusions can warrantably be drawn, which may promote the investigation now going forward.

Not much more than six months have elapsed since the opportunity was afforded, by the breaking out of the *vaccine disease* in two principal milch-farms near London, of obtaining matter for propagating the same disease among human creatures. The *new inoculation* was immediately introduced in London, and soon afterwards in the neighbourhood, as well as in many provincial situations. It is with sincere satisfaction that we can now reckon, at the fewest, 2000 persons who have passed through the cow-pox by inoculation; but, in this number, I include the very large proportion furnished by him, who, so beneficially for the public, and honourably to himself, possesses the office of physician to the Small-pox Hospital. From the above experience we receive, as I expected, important information.

1. Of the above number, it appears that *one* patient died. (Woodville's Reports, p. 151.) And to avoid controversy, let us allow that the death was occasioned solely by the inoculation. Now, according to the justest calculation I have been able to make, as, in the inoculated small-pox, one in two hundred * dies from the disease, it is evident, in the present

* I am fully aware that so great a proportion as one in two hundred will not be allowed by many practitioners; and to persons who have been

sent state of the practice, that the proportion of fatal cases in the inoculated small-pox to the inoculated cow-pox is as ten to one.

2. The constitutional affection, or fever, which occurs in the cow-pox about the ninth day after inoculation, is much more considerable in many cases, than was apprehended from the first account by Dr. Jenner; although in a great proportion of cases it is extremely slight, and, in many, cannot be observed at all. But I must correct my statement in March last, in which I said, "although the extreme cases of the severe kind which ordinarily occur in the same number of cases in the inoculated small-pox did not occur in the new practice; and although many of the patients were even more slightly disordered constitutionally, yet the whole amount of the constitutional illness seemed to be as great as in the same number of patients in the inoculated small-pox." Since that report, or, at least, for the last four months, as far as I have observed, and been able to learn from others, the whole amount of the constitutional illness was not one half of the whole amount in an equal number

been told, and believe, that inoculation for the small-pox "scarcely ever does any harm;" that certain practitioners have inoculated many thousands without losing a patient!! that others have told their friends "they never had a fatal inoculated case in their whole lives:" I say to such persons, no advantage on the score of saving life will be allowed from the cow-pox; but I have conversed with many candid and experienced practitioners, and they are well satisfied that I am warranted in the above statement of deaths in the inoculated variola. I beg leave to say further, that I believe more persons in proportion have died of the inoculated small-pox within a few years, than died in the same time twenty years ago; and this may be accounted for from the unwarrantable assertions of many inoculators. Hence a great part of the public have imbibed the opinion that the inoculated small-pox is not attended with any danger; and the practice is often trusted in the hands of persons not sufficiently acquainted with the treatment fit for different states of the human constitution.

of

of patients inoculated for the small-pox. Now, whether the greater mildness of the disease depended on the different state of the human constitution in the summer from that of winter, as seems to me most probable; or that it depended on the difference in the state of the vaccine matter, must be determined by future experience in the same seasons.

3. The most remarkable difference in the practice of the last winter and present summer, has been with regard to the eruptions which so often occurred, especially in the Small-pox Hospital; which eruptions, in many instances, could not be distinguished from those of the small-pox, and which were wholly unexpected from the original description by Dr. Jenner. No explanation hitherto given, consists with the observations relative to these eruptive cases; but the facts are, as stated by Dr. Woodville, *(Lond. Med. Rev. for June)*, that they have occurred much less frequently this summer, than in the spring and winter preceding. In my private practice, not a single case with eruptions resembling the small-pox, has occurred these last four months, and but a small proportion with any eruptions of other kinds. From my correspondents I have not had a single case of eruptions like the variolous, since that of Dr. Redfearne's, of Lynn; not one of this sort in Mr. Kelson's, of Seven Oaks, report of about one hundred patients; not one in Dr. Mitchell's, of Chatham, of about fifty patients; not one in the report of near one hundred patients, from Dr. Harrison, of Horncastle, communicated to the Right Honourable Sir Joseph Banks; and, in short, not one case with these eruptions appears in the accounts from my other correspondents.

4. The arms have manifested, in many instances, a much more extensively spreading red areola around the inoculated part, than is usual in the small-pox, which redness sometimes extended over the greater part of the whole arm. This appearance is very alarming to both the patient and the inexperienced practitioner; but no danger seems to be

attendant on such a state of the parts; for it disappears in, at most, two or three days; by no means gives pain in proportion to its appearance, and, in the cases I have seen, affects the constitution very little. I would rather call this spreading redness of the skin *erythema* than *erysipelas*. As to phegedænic ulcers, as they are called, ensuing in the inoculated part, many sore arms have been produced; but nine out of ten were occasioned, or, at least, much aggravated, by the tightness of the clothes; by allowing the linen to stick to the sore; by scratching the pustule; and sometimes by emollient poultices. The experience we have had then since January last in London, and in the country, does not agree with Dr. Jenner's account concerning the state of the arms. He thinks some new applications of a caustic nature necessary in many cases to prevent secondary symptoms from the sores; but Dr. Woodville (Report, p. 155); my correspondents; and myself, have not found any want of applications on this account.

5. Concerning the important point of the certainty of the action of the cow-pox on the human constitution to produce unsusceptibility of taking subsequently the small-pox, I can only say at present, that I have inoculated many scores with small-pox matter after the vaccine disease, and *never* with the effect of exciting the small-pox; though I have had accounts sent to me, not of people taking the small-pox after the inoculated cow-pox, but of these taking the small-pox after the cow-pox in the casual way. I have, indeed, been desired to see even some of my own patients, who I was acquainted had taken the small-pox after the cow-pox; but these cases turned out to be either those in which the cow-pox had not in reality preceded, or they were cases of merely local affection from the inoculated small-pox. With respect to the facts of other practitioners, I shall, at a future time, make some remarks on them to render their accounts consistent with those of Dr. Jenner,

Dr. Woodville, and myself. In the mean time, I will not allow that any person's evidence is on this point much to be depended upon, unless he really know what are characters of the cow-pox pustule, and what are those of the variolous, and some other common eruptions.

From the preceding general results, without entering into a more particular account, I think we may safely conclude, that the cow-pox inoculation is attended with advantages sufficient to force its way speedily into general practice, and that, in course, it will supersede, and ultimately extinguish, the small-pox; but this conclusion is only made, provided no new facts shall arise, adverse to the experience now possessed.

With regard to the second object of this paper, Dr. Jenner, very usefully to human society, and very honourably to himself, first published some FACTS, which I thought it my duty, in common with other members of the profession, to investigate, and have laid before the public. Among these *facts*, the *fourth* and *fifth* were asserted in these terms:

IV. *A person having been affected with the specific fever, and local disease, produced by the cow-pox poison, is liable to be again affected as before by the same poison; and yet such person is not susceptible of the small-pox.*

V. *A person is susceptible of the cow-pox, who has antecedently been affected with the small-pox.*

Neither of these facts being supported by any analogy, a great part of the public seemed inclined to disbelieve them; and not only inclined to disbelieve these facts, but the credit of the others was, for obvious reasons, thereby weakened. It may be seen in my Inquiry, that I thought the assertion stood in need of confirmation, which I was not only unable to procure, but contrary evidence was obtained. Some of my correspondents not only asserted that men were not affected more than once, but that the same cows had not been known to be affected more than once.

It was also positively asserted by some, that "a person is not liable to the infection of the cow-pox after going through the small-pox," (p. 49, *Inquiry*;) "and I saw persons pitted with the small-pox, who had been much exposed to the cow-pox without taking it," *(ibid.* p. 50.)

Notwithstanding my confidence in Dr. Jenner's evidence, I could not help pointing out, in the following words, what I apprehended was a source of error in both cases: "The evidence for this fact (viz. IV.) to my apprehension only proves satisfactorily that the *local affection* of the cow-pox may occur in the same person more than once; but whether the *peculiar fever* also occurs more than once in the same person, from the cow-pox poison, does not appear certain, and must be determined by future observations, made with a particular view to this point." Farther; I was so dissatisfied, that I wrote to Dr. Jenner to answer my query, Whether, in the instance of the cow-pox occurring more than once in the same person, it was certain that the specific fever was present more than once? The Doctor very obligingly answered my letter, and says (see Dr. Jenner's letter, p. 99 of my *Inquiry,)* "You may be assured, that a person may be repeatedly affected *both locally and generally* by the cow-pox; two instances of which I have adduced, and have many more in my recollection." But he very candidly adds, "Nevertheless, on this important point I have some reason to suspect that my discriminations have not been till lately sufficiently nice."

With respect to *fact v.* I said in my *Inquiry*, p. 49, "It seems sufficiently authenticated, that people may have the cow-pox after they have had the small-pox; but it will require more nice attention to satisfy the query, Whether in such cases the cow-pox affects the whole constitution, or is only a local affection?" Subsequently to this observation, I find Dr. Jenner himself, from a theoretical consideration, offers as a "conjecture what experiment must finally

finally determine, that they who have had the small-pox are not afterwards susceptible of the primary action of the cow-pox virus." (Further Observations, &c. by E. Jenner, M. D. &c. p. 32.) I shall now relate the *trials* I have instituted, and the *observations* I have made, to obtain *determinations* with respect to these important questions of facts.

Trials to determine whether or not Persons be susceptible of the SPECIFIC COW-POX PUSTULE *and* FEVER, *who have undergone the Small-pox.*

The following four first named gentlemen, being engaged with me in physical inquiries, were desirous to experience in their own persons the effects of the vaccine poison.

1. Mr. Dangerfield was inoculated in one arm by means of a puncture with a lancet stained with fresh, but dried matter, rendered fluid by steam when inserted. The other arm was inoculated by passing through the skin a bit of thread impregnated with matter.

On viewing the arms in three days time, that with the thread appeared inflamed, with a red, elevated, small spot; the other arm, which had been punctured, barely shewed a red spot. The punctures had smarted for about twenty-four hours, but no other effects were produced. These red spots disappeared in a few days.

In three weeks further the inoculation was again instituted, but with fluid lymph applied, immediately from the pustule of a person present, to punctures in each arm. More smarting and more inflammation were produced by this inoculation than by the former. A small quantity of pus was produced in the little red spots from the punctures in about six or seven days, but no disorder arose in the whole constitution.

Mr. Dangerfield was next inoculated in one arm with *variolous* matter. In the evening of the day of inoculation inflam-

inflammation appeared, which increased to a greater degree and extent than from the vaccine inoculations. A small phlegmonic tumour, in the part inoculated with variolous matter, continued for a fortnight, during which time it suppurated, and the sore from it did not heal in less than three weeks further. There was no constitutional affection, but much pain was felt in the arm-pit in about five days from the insition.

2. Mr. Pollock was inoculated in each arm with a lancet armed with fluid lymph, immediately after taking it from a patient. A little smarting was felt for a day or two, and the parts inoculated were red for several days; but no pustules arose, nor constitutional affection.

3. Mr. Perkins was inoculated by puncturing one arm with a lancet stained with recent *vaccine matter*, and the other arm was inoculated with variolous matter. A red spot was seen on each of the parts inoculated the day following, and an itching sensation, especially from the vaccine matter, was experienced for a day or two. The parts remained elevated and inflamed a little for a few days further, and then got well without suppurating, or being attended by any general disorder.

4. Mr. Armitage, whose constitution was fat and muscular, was inoculated in each arm with a lancet stained with limpid vaccine matter, immediately on taking it from a patient present.

A small red spot was observed the day following, and a little burning sensation was complained of. The red spots grew larger and larger for four or five days, and at length produced a small, unequal, hard tumour, in which a little pus was afterwards generated; but the parts soon got well, without any attending disorder of the whole constitution.

In a fortnight after this, each arm was inoculated with variolous matter, more inflammation arose, in a few days, than from the vaccine inoculation, followed by small tumours, which suppurated. The parts inoculated remained

sore

sore for more than a fortnight, but no feverish symptoms ever appeared.

5. G. P. a boy twelve years of age, who had gone through the small-pox ten years before, was inoculated in one arm with recent dried vaccine matter, but rendered fluid by steam just before it was inserted. The day following not so much as a red spot appeared on the part inoculated, nor had there been any uneasy sensation. He was, therefore, inoculated a second time, but with fluid lymph immediately from a patient.

The day after the second inoculation an itching sensation of the punctured part was complained of, which continued for two or three days. The part punctured had a small, red, elevated spot upon it the day after the inoculation; which grew gradually larger for four or five days, and became a trifling phlegmonic tumour, but without any red surrounding areola. In a few days the little swelling subsided, but a red, and rather sore, spot remained for a week longer. No disorder of the whole constitution was perceived.

6. I was inoculated by Dr. Woodville, in one arm, with fluid vaccine lymph from a subject present. The punctured part smarted a little all the remainder of the day of the inoculation, and also the day following.

In twenty-four hours a red spot was seen on the inoculated part, exactly like that which is seen in the same time when either the vaccine, or variolous infection, has taken effect, and increased for yet another day; but after this the redness vanished, and no sore was left.

I once accidentally punctured the back of my hand with a lancet which had fluid vaccine matter upon it. The consequence was, a circumscribed, very small, red, hard tumour. This remained for a fortnight, then suppurated, and afterwards burst. The part soon healed, but left a very small superficial cicatrix.

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As belonging to this head, I mention that I have seen several instances of nurses having small red conical tumours on their lips and cheeks, and sometimes hands, evidently from the application of some cow-pox matter of the children under their care during the vaccine inoculation. These little tumours sometimes remained for several weeks, and a particle of pus was formed in them. They never were attended by any fever symptoms, nor by any surrounding erythematous areola. I here speak of nurses who had before passed through the small-pox.

I have no hesitation to refer the following cases to this head of unsusceptibility of taking the cow-pox, to having previously gone through the small-pox.

A male servant to Thomas King, Esq. about eighteen years of age, was brought up under circumstances in which he could get no testimony to his having had, or *not* having had the small-pox. Not having undergone this disease to his own knowledge, it was thought advisable to inoculate him for the cow-pox, in order to resist the small-pox, with which his fellow-servant was seized. This I did on Thursday the 23d March, in one arm, with matter on a bit of thread.

4th day, Sunday 26th. The parts inoculated had smarted for the first two days, and they were now red and a little elevated, as if the infection had taken.

6th day, Tuesday 28th. Inflammation had almost entirely gone off. Inoculated a second time in both arms with matter from a different patient.

3d day of *second inoculation*, Thursday 30th. The parts appear inflamed.

6th day of *second inoculation*, Sunday, April 2d. Inflammation had disappeared. Inoculated a *third time* with limpid fluid from a patient present, and with which matter I had excited the vaccine disease in several persons.

7th day of *third inoculation*. The parts inoculated had inflamed,

inflamed, and felt painful for two or three days, but were now well. Inoculated the patient a fourth time with *small-pox matter*, in both arms; from which a little inflammation arose in both arms, but nothing more. This young man frequently visited his fellow-servant in the small-pox, at the Small-pox Hospital, and often shook hands with him, while under my care for the cow-pox inoculation.

In this case either the small-pox had already affected the constitution, or some other disposition existed, rendering it equally unsusceptible of the small-pox and cow-pox.

From Dr. Mitchell at Chatham, whose report is now before me, I learn that there were several instances of soldiers, to whom the cow-pox could not be communicated; and, although they had no recollection themselves of having gone through the small-pox, it was most likely they had really been affected by it.

If I had seen any instance of genuine cow-pox pustule and specific fever in a constitution which had previously suffered the small-pox, I should have related it; but I ought to mention that such a case has fallen under the observation of Dr. Woodville. (Reports, p. 52, and p. 143.) I shall never object to the testimony of so experienced a physician without more than usual consideration; but I cannot avoid here observing, that the evidence in his case of the patient having had the small-pox *when a child*, is merely that of the patient; and I submit to Dr. W. whether or not that evidence is admissible to build upon, now that we have the above unequivocal contravening cases of the fact asserted. But I trust the Doctor will be less tenacious of this instance, as he himself tells us that he failed to excite the vaccine disease, by inoculating several patients who were recovering from the natural small-pox. (Reports, p. 144.)

Whatever impression the above instances may have made on my own mind, I do not expect they will produce conviction in the mind of every practitioner, *that it is a law of*

the human animal economy to be rendered unsusceptible of the cow-pox fever, and specific pustule, by undergoing the small-pox.

Hence I find that my expectation of the hands of physic being strengthened by the possession of a sure means of exciting an innocent fever is not realized, (*Inquiry*, p. 81;) but I feel some consolation from the prospect of the new inoculation being more speedily introduced, by the removal of one obstacle, viz. the fears of many patients who have already passed through the small-pox, that they would be liable to the cow-pox, if the diffusion of the infection of it became extensive by the vaccine inoculation. Another advantage suggested in my *Inquiry*, p. 92, is now, I think, greatly confirmed; namely, an advantage for *those who are not certain whether or not they have had the small-pox, but possess so great a dread of this disease as not to be able to submit to inoculation for it.*

I congratulate such persons on the discovery of a test to which I apprehend the most timorous minds will submit: for if the *specific pustule* and *fever* do not take place from the inoculation of the cow-pox poison, they may be assured, that *either they have already passed through the small-pox*, or *their constitutions are not susceptible of it.*

It now seems to me that the following facts are established on the foundation of experience:

1. *A constitution which has undergone the small-pox is unsusceptible of again undergoing this disease.*

2. *A constitution which has not undergone the small-pox, but which has undergone the cow-pox, is unsusceptible of undergoing the small-pox.*

3. *A constitution which has not undergone the cow-pox, but which has undergone the small-pox, is unsusceptible of undergoing the cow-pox.*

Now, if the variolous poison destroys the susceptibility of the constitution to the future agency of this poison in the respect of its producing the small-pox; and if the cow-

pox

pox poison destroys the susceptibility of the constitution to the future agency of the variolous poison, in the respect of its producing the small-pox; and if the variolous poison destroys the susceptibility of the constitution to the future agency of the vaccine poison, in the respect of its producing the cow-pox;—it seems to be demonstrated, that the same state of unsusceptibility of the constitution, with respect to the future agency of the variolous poison, is produced equally by the agency of the variolous poison and by the vaccine poison: but, if the variolous poison produces unsusceptibility of the constitution to the future agency of the vaccine poison, and the vaccine poison produces unsusceptibility to the future agency of the variolous poison, it appears demonstrable, that the following 4th proposition is true, viz.

4. *A constitution which has undergone the vaccine disease is unsusceptible of again undergoing that disease from the vaccine poison,* because a state of unsusceptibility with respect to the agency of the variolous poison is produced by the vaccine poison (2d *proposition,)* and a state of unsusceptibility with respect to the agency of the vaccine poison is produced by the variolous poison (3d *proposition;)*—but the state of the constitution being the same in the two cases, whether it be produced by the variolous, or the vaccine poison, with respect to unsusceptibility, it seems inevitably in course that unsusceptibility of the constitution to the future agency of the vaccine poison is produced by the vaccine disease; and the demonstration, in course, could be given of the 1st *proposition,* on the ground of the 2d and 3d *proposition,* that unsusceptibility of the constitution to the agency of the variolous poison, is produced by the variolous disease, if this were not already proved by abundant experience. At a future time, however, I shall relate the observations and experiments to confirm this last *à priori* conclusion; first, because these proofs will increase the validity of the 3d *proposition;* and secondly, because I do

not mean to offer this demonstration as infallible, like mathematical.

From the preceding reasoning it may be imagined, that I consider the cow-pox and small-pox as only varieties of the same species of disease, and that, therefore, the name *Variola Vaccina* is appropriate, although I formerly endeavoured to shew that it was unjust, and tended to mislead, by giving erroneous notions (*Inquiry*, p. 108.) But it must here enter into our contemplation, that the same state of an animal, or other substance, in a certain respect may be produced by very different things, and yet the phenomena attending their agency may be very different from one another. It is so in the instances under consideration; and further, in order to establish resembling things to be *varieties of the same species, we ought to be able to trace them to one common origin;* or to shew that they all agree in what should be reckoned essential properties. Now, hitherto it has not appeared that the cow-pox has arisen from the small-pox, or the small-pox from the cow-pox. If it be said, that in some of the eruptive cases of the cow-pox the pustules could not be distinguished from the small-pox, it should be considered, that it has not been yet shewn that in any case the small-pox has changed into the cow-pox; that the cow is susceptible of the cow-pox, and not of the small-pox, by inoculation of the matter of the cow-pox from the human subject; and that the pustules resembling the small-pox, which occur in the cow-pox, afford matter which, I believe, produces in some cases (although perhaps not in so great a proportion as originally) the cow-pox in its usual mild way, viz. a pustule in the inoculated part only, and a slight fever. Hence I humbly am of opinion, but submit the question to the decision of scholars, that the use of the denomination *Variola Vaccina* is a transgression of the law in philology, and repugnant to sound logic.

Extended as this paper is, much beyond the limits pro-

posed, I cannot confine to myself the gratification from the Reports of the *New Inoculation*. I shall only mention however one or two of them.

The sensation excited on the continent by the vaccine inoculation has been much more considerable than even in our own island; as I learned, first from Dr. Marcet, and since, by a letter from Dr. Peschier. At Vienna, Dr. Ferro inoculated two of his own children with vaccine matter, which I transmitted: and next, Dr. de Carro inoculated two of his own children. An accurate journal of these two last cases was kept by Dr. de Carro, which he has had the complaisance to communicate to me through the hands of Dr. Peschier. The above patients had the vaccine disease in the usual mild way that they have had it in England, and were inoculated subsequently for the small-pox, but without taking that disease.

It is supposed that Dr. Frank will adopt the new inoculation, as it is likely to be generally done at Vienna. I also expect reports from Portugal, and other parts of the continent.

When matter is to be kept for a long time, I preserve it on thread, which I enclose in a bottle filled with hydrogen gas, or nitrogen gas, quite free from moisture.

In Scotland the cow-pox inoculation has not been less successful. Dr. Anderson, of Leith, has favoured me with a report of eighty cases of inoculation; and informs me, that Dr. Duncan, and others, at Edinburgh, have begun the practice; likewise, that it has been introduced in Dundee, Paisley, and Dalkeith.

If the vaccine inoculation proceed with equal mildness as it has done the last four months, doubtless the variolous *insition* must in no remote period be superseded. And if such an event ſhould take place, posterity will behold with amazement the prejudices and inattention of their predecessors to the application of a fact in practice, by which a formidable and loathsome disease was extinguished:—a

fact,

fact, well known to almost every dairy farmer in at least half a dozen counties of England, but neglected till JENNER had the courage to indicate the advantages of it to society. If I were to name a parallel instance of inattention, or prejudice, it should be the neglect of inoculation for the small-pox till it was introduced into England from Constantinople; although it had been practised time immemorial in the Barrozzo mountains on the frontiers of Gallicia, in the same rude manner as it is at this day *.

Art. 3. *Observations on Dr. Hooper's Cases of the Cow-pox.* By the Rev. T. D. FOSBROOKE, M. A. Curate of Horsley, Glocestershire.

To the Society of Physicians and Surgeons.

GENTLEMEN,

IN your Review of last month, pp. 505-8, is a communication from Dr. Hooper respecting the susceptibility of persons exposed to the variolous contagion after having had the cow-pox.

Previously to making any observations upon the case adduced by Dr. H. it is necessary to refer him to Dr. Jenner's Variolæ Vaccinæ, and Further Observations, &c. which demonstrate the existence of a *spurious* disease.

That the case of Dr. H. was one of this kind, appears plainly from the description given of the patient's state during the operation of the disease. This I shall confirm by a case exactly parallel to that of Dr. H. In the month

* This intelligence was communicated to me by a Portuguese nobleman, whose opportunities of information and accuracy authorize me to mention the fact: but an attested account from some of the inhabitants of those mountains is intended for me.—See a book written by *Jacobus a Castro de Sarmento*, in which I am told this fact is asserted.

of

of May last, Sarah Hanks was hired by me as a servant. It being necessary that she should learn to milk, she attended for this purpose several days successively at the farm of a Mrs. Walkeley in my parish. A few days after this, pustules broke out upon her hands, which (to use Dr. H.'s words) "*were larger than those of the small-pox, and which ended in a brown crust.*" That I could err, in supposing this a spurious disease, is impossible. My own children were, at that very period of time, infected with the *true* cow-pox, the inoculated pustule being then in a state of complete maturation. The points of difference between the two diseases were visible, though unnecessary to be repeated here, as they are clearly described in Dr. J.'s publications. I shall only observe, that in the mere respect of pain, and painful affection of the arm and axilla, there was little or no difference between the true and false disease. This, I think, will satisfactorily account for Dr. H.'s patient *having suffered nearly as much as those who have the small-pox.*

It is a circumstance, perhaps, worthy note, that Sarah Hanks, who has never had the small-pox, had been but a short time before repeatedly inoculated with variolous matter. The cow-pox she had never had. The only cause of this rejection of small-pox she can assign, is that she caught a rash some few months before.—That there are numerous temporary preventatives of small-pox, such as this of Sarah Hanks, is well known; and I beg this to be considered, when we are told that the persons, mentioned by Dr. Hooper, were repeatedly exposed afterwards to the contagion of small-pox, and were not infected. I have not the least doubt that the case of Mr. Jacobs, in Dr. Beddoes's Contributions to Physical and Medical Knowledge, p. 470, is a similar case of spurious cow-pox. For notwithstanding Dr. Beddoes's observation, that the answer to Query 3 is pretty decisive, it is plain that it cannot be so, since there is not a single symptom there described which does not

occur

occur in the *spurious* as well as the *true* cow-pox. I speak from actual observation, Dr. B. from description only.

But if we admit (which it is plain from the preceding case there is no necessity to do) that this was a case of actual cow-pox; what then? Since this inquiry has been set on foot, instances have been multiplied of reiterated small-pox, which are too numerous for any thing else than an index (I speak correctly) to state. The idea of the insusceptibility of the system to receive small-pox twice, so far that no instances have been known to the contrary, is a *modern* idea, in deference to Dr. Heberden. Etmullerus (Opera, fol. 1697, tom. ii. 403) cites Borellus (Cent. iii. obs. 10.) for an instance of a woman who had the small-pox seven times, and at last died of that very disease in the hundred and eighteenth year of her age. Isbrand de Diemerbroek (De Variolis et Morbillis, inter Opera omnia, p. 290) observes, that in the year 1640, "Varios hoc tempore vidimus, qui cum variolas copiosissimas habuissent, vix ab iis sanati paulo post in idem malum reciderunt, atque illis ista secundâ vice sæpe multo majore copia eruperunt, quam prima: imo aliqui visi sunt, qui inter spatium sex mensium ter copiosissimis variolis laborârunt, &c." Fuller (Exanthematologia, p. 172,) after justly deriding the above passage of Borellus, brings an instance from Stalpartius of an infant who had the small-pox twice in three weeks, and another from Heide of a girl who had the disease twice in a very short interval. The modern instances have refuted the idea of Fuller, &c. that the above statement of the writers quoted was owing to a mistake in the nature of the diseases.

Four persons were inoculated (three by myself) from my own child's arm: two of whom (the others have not been tried) have resisted variolous inoculation, though repeatedly attempted.

Confident that the success of Vacco-variolism is most heartily

heartily to be desired by every true friend to mankind, and as confident as sorry that the benefits of this practice are not sufficiently understood, or malignantly suppressed (though every compliment is due to Dr. Hooper for the fairness and candour with which he has stated his communication,)

I remain, Gentlemen,

August 12, 1799, Your most obedient servant,

Horsley, Glocestershire. T. D. Fosbrooke.

Art. 4. *Notices of intended Publications.*

Dr. Rowley is printing some critical observations on the use of mercury, astringent injections, and caustic bougies, in strictures, gonorrhœa, and lues venerea.

Dr. Hull is preparing for the press an Introduction to the Study of Botany, and the natural Characters of the Genera of British Plants.

Mr. Parkinson is about to publish a little tract, entitled *Chemical Memoranda*; so arranged as to form a systematical sketch of theoretical and practical chemistry; with a description of the external characters of stones and minerals, from Kirwan, and tables of affinities, from Bergman, &c. The whole is intended to be comprised in a small pocket volume, for the use of students.

Mr. Kirwan is on the point of publishing his much expected geological and mineralogical work.

*** Want of room obliges us to postpone the insertion of original communications transmitted to us by Mr. Kerrison, Mr. Woolett, Mr. Brown, Mr. Blair, Mr. Rowlands, Dr. Hooper, and Mr. Scarman; but they will all have a place in our next number.

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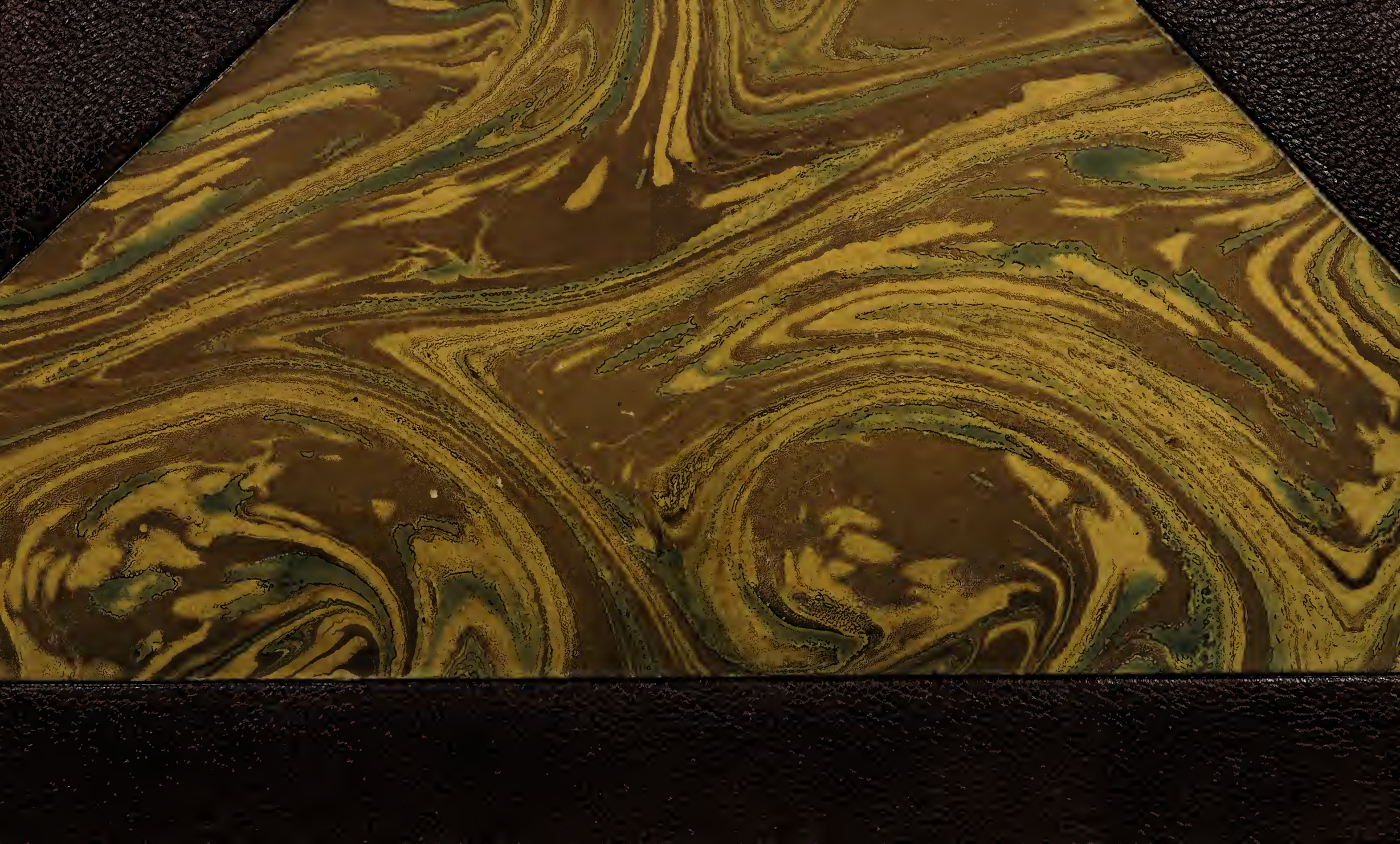
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